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Instruction in the Grades

Values and Methods

A TEXTBOOK FOR NORMAL STUDENTS AND YOUNG TEACHERS

BY

OSCAR GERSON

FORMERLY PROFESSOR OF PEDAGOGY IN TEMPLE UNIVERSITY

CO-AUTHOR OF

A BRIEF TOPICAL SURVEY OF UNITED STATES HISTORY
GEOGRAPHY PRIMER, PHYSIOLOGY PRIMER, ETC.



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TO

KATE, JOHN, BOB AND PRUE

WHOSE PATIENT FORBEARANCE MADE THIS WORK POSSIBLE

PREFACE

This little book is the outgrowth of a series of lectures delivered to groups of teachers—candidates for Supervising Principals' certificates at the annual examinations in Philadelphia—and is published in response to their urgent request.

Throughout the book the reader will find that **value** as determining aim is regarded as inseparable from a philosophic treatment of **method**. The constant necessity of considering values and aims, which I have never tired of proclaiming, has made this work rather different from the ordinary treatise on method. It is, however, the recognition of this point of view which has lifted, or will lift, teaching from a trade to a profession. Every live teacher must, if only occasionally, catch a glimpse of the blue sky of educational ideals through the narrow, barred windows of tradition. Although I have carried out the relationship of aim and method in considerable detail, and have applied it to most of the curricular subjects, I cannot but feel that such repetition is justified by the vital importance of this view-point.

I have omitted the treatment of the important subjects of physical and manual training, music, drawing, sewing, and cooking, which as a rule are either taught or supervised by specialists; and have confined myself

to the discussion of those subjects, largely traditional, in which the teacher is expected to work out her own salvation. All the methods advocated in this book find their justification in the fact that they have been successfully used, either by me or by teachers whose work and results have come under my direct observation.

I shall not attempt to acknowledge my indebtedness to other writers on education. In fact, I could not, if I would. The ideas herein expressed are, now at least, so absolutely my own, that even though I may be only their foster father, I cannot distinguish them from my own offspring. This much I can safely say, that no view set forth in this book is written simply because it conforms to somebody's theory. Neither has newness, as such, been a part of my aim. I have merely attempted to collect, in an orderly fashion, such parts of my educational experience and reflection as I thought would be helpful to teachers and normal school students. I trust that, if the reviewer is moved to exclaim with Lessing, "This book contains much that is good and much that is new," he will not supplement it with the caustic comment that the good is not new and the new is not good.

O. G.

May, 1914.

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INTRODUCTION

No apology is needed for a new book on Method. That there is real progress in this subject is shown by the fact that some books quickly become "out of date" and "behind the times."

Tradition still holds partial sway, however, and exerts a two-fold influence: first, in determining Subject Matter; second, in regard to Method *per se*. It thus contributes its share to four results, namely:

Worthless matter ill-taught,
Worthless matter well-taught,
Valuable matter poorly taught,
Valuable matter well-taught,

the last only being the consummation devoutly desired by all faithful teachers.

The aim of a book of this character should be to furnish a criterion for **educational values**, and inspiration for **right methods**. In regard to the former, the author well realizes the fact that the educational *sum-mum bonum* depends upon our attitude toward that larger science of life—ethics.

In this book the attempt will be made to ascertain the most generally accepted views on the various subjects, although here and there the reader will discover certain radical departures from existing traditions, as embodied in present-day courses of study.

So great is the variety of opinion, however, in regard to educational values that the author, in lecturing to classes of teachers, has often found the most difficult part of his work to consist in determining the *what*, the subject matter, as well as the *how* or method on account of the vagueness or neglect of the aim.

An illustration may make this clearer. In teaching mode and tense in grammar, methods would vary considerably, according as we adopted as our aim (a) improvement of spoken and written language, (b) preparation for the study of foreign languages, (c) training of memory. Under (a) emphasis would be laid upon matters like the proper use of the future tense; upon the auxiliaries *will*, *shall*, *may*, *can*; the subjunctive forms; etc. Under (b) drill in conjugation and the development of a helpful preparatory terminology would be emphasized. Under (c) some special way of using the subject-matter to train the memory might be devised.

It is hoped that the importance of definite aim will find a permanent, prominent place in the teacher's actual practice. The most useful habit of mind for a teacher is that of constant self-questioning, as: "What is the use of this?" "Will it make a better man or woman of this child?" "Will it enable him to pass an examination?" "Will it make him healthier?" etc., etc.

Although this is an age of specialization, still teaching is teaching, and very much the same psychological principles apply to all subjects of instruction. What these are will be pointed out in a general way

in a subsequent chapter. It frequently happens, however, that a teacher may secure excellent results in one subject, and indifferent or poor results in some other. The tendency to introduce departmental teaching in the elementary schools is to some extent a recognition of this diversity of talent and interest among teachers. Where, however, as in most elementary schools, the teacher must give instruction in all subjects, it becomes exceedingly important that she should have a thorough knowledge of subject-matter, and also that she have guidance in method in those subjects where she seems lacking in ability and interest. It is hoped that this book may to some extent enliven topics, formerly viewed as dull, and suggest real method in place of lifeless routine.

No teacher should limit her knowledge of subject-matter or method to the work of the grade which she happens to be teaching. This more than anything else takes the life out of work. Ruts do save some from the ditches, but the educational roads are broad and fair, and both ruts and ditches may be avoided. In the industrial world, it is possible for a man to be a proficient workman, with no knowledge whatever of the relation of his work to other operations in the same establishment. Such piece-workers cannot possibly live in their work. Their real life must be crowded into the comparatively short period outside of their working hours.¹ Teaching must

¹ The organization, compactness, and specialization of industrial systems have a dangerous as well as a helpful aspect when made a standard of comparison with educational insti-

never approximate this condition. Of all vocations in the world, teaching is the one where the workman must live in his work. Anything else spells failure. Every teacher should have a general view of the relation of education to life. More specifically she should come into intimate contact with the work of every grade. From this point of view, especially, it is hoped that all parts of this book will be found helpful to teachers whatever their grade.

Let it be said at once that no set of rules or devices can possibly relieve the teacher of the necessity for watchful eyes, keen ears, quick brain, and responsive heart. The contempt for pedagogical training manifested by some of the older teachers—those born teachers, who, being fittest, have survived—is due to their keen perception of the unearnest self-sufficiency of the book-made pedagogue. They might be justified in quoting to the latter: “And the God you took from a printed book be with you, Tomlinson.” As in discipline, so in instruction, a good method at one time may be bad at another time; or the best way to teach John may not be equally good for Henry, nor for the same John at different times. A rule is general in nature. This means that it is applicable in the great majority of cases. But the recognition of the comparatively few cases where a rule is not applicable, and the proper modifications of the rule, which will adapt it to special situations, measure the tact and ability of the teacher.

tutions. What constitutes true economy in these latter is very hard to define.

INSTRUCTION IN THE GRADES

VALUES AND METHODS

PART I—INTRODUCTORY

CHAPTER I

VALUES

Explanatory.—Were this book intended as a philosophical discussion of pedagogy, it would be necessary in this place to devote considerable space to the so-called ethical aim of education. The author's purpose, however, is by no means theoretic or academic, but narrowly practical, as proof of which, philosophical digressions will be eschewed throughout. In general, we may agree with the statement that the aim of education is social efficiency. No thorough-going analysis of the concept of social efficiency will be attempted here, but just so much description of the ideal as seems necessary to the understanding of method.

Mental Discipline.—It has been the custom of educators, from time immemorial, to speak of the value of this or that study as "mental discipline." It has been thought that various powers or faculties could be trained or strengthened as the result of some specific exercise, so as to function better in general. For ex-

ample, the "grit" developed in a football game was thought to give to the individual a courageous attitude toward the divers situations arising in the battle of life. The accuracy and insight required in translating a passage of Latin were credited with a tremendous effect upon the development of accuracy and insight in general. In the above sentences the past tense has been used, as though nobody nowadays accepted these views. This is not so. Formal discipline—as it is called—has rooted itself so firmly even in our every-day speech that no single generation of psychologists can hope to eradicate it. Moreover, in this popular notion, there is so much real truth that the scientific unraveling of the tangle becomes especially difficult. Passing over the controversial aspects of the question, the following would seem to be a fair summing up of the situation at this time:—The disciplinary value of various subjects in the curriculum has been greatly exaggerated. As a rule, so-called mental training amounts to no more than the development of the natural interest attendant on systematized knowledge. The botanist has not, on the whole, better powers of observation than the dressmaker. The one observes well in a field or garden, the other in the field of fashion or at an evening function. Where there is interest and mental organization in any particular subject, there will be better observation, memory, imagination. No game requires more concentration and foresight than chess. Yet chess players are not, as a rule, a peculiarly provident class. We must not think of the mind as a collection

of faculties, each capable of individual training, but rather as a group of apperceptive systems; mental training depending on the interrelation and organization of these systems.

The study of one subject may, of course, assist in the mastery of another, depending upon the resemblance between them. To one who has mastered Latin, the study of the Romance languages is comparatively easy. So a chauffeur should have but little trouble in learning to run a motor boat. But in neither case does this amount to mental training as generally understood. Additions are simply made to a system of ideas already existing. Nor does a method or device for text-book study constitute mental training. Such method or device may be exceedingly helpful, however, because much of the ordinary curricular school work is dependent on text-book study. When we come to the ethical or quasi-ethical qualities, such as courage, perseverance, neatness, accuracy, the problem of formal discipline assumes a new aspect. No amount of psychological experimentation will disabuse the ordinary teacher's mind of her belief in the ethical value of school work. Ethical value there certainly is, but it may not be left to itself; it must be fostered. There is a value, and a considerable value, in one's sticking to a perverse mathematical problem until it is solved. But this value inheres, not in the mere sticking to the problem, but in the formation of an ideal of perseverance. Here is the teacher's opportunity—a lively moral text. If a child is obliged to solve again a long problem on account of a careless

error, disgust with school work is as likely a result as increased accuracy. All depends on how the teacher handles the situation. Our answer, then, to the question: "What disciplinary value has subject X?" would depend upon its resemblance to other subjects which would probably be studied later, or—and this is the more important consideration—upon the extent to which it furnished opportunities for the development of conscious ideals.

Utility.—The utilitarian aim of education seems too obvious to require any extended treatment. It amounts to the indirect self-preservation of Spencer's *Complete Living*. It has been called the "bread and butter aim," and various other uncomplimentary names. Nevertheless, in an increasingly economic age such as ours, utility, even in a narrow sense, must justify our every movement. The rapid development of industrial and vocational education in recent times shows how important utility is to the general public, and how frequently values are reckoned in dollars and cents. There was a modern philosophy in the facetious response to the highwayman's "Money or your life!" "Take my life! I need my money to live with!"

Conventional Aim.—There are many things which we learn, not because they are narrowly utilitarian, nor for any supposed mental value, but simply because everybody else learns them. What our parents have learned, we should learn, and thus tradition continues to grip our curricula. The educational body is choked with vestigial organs. The surgical excision must

needs be delicate and often painful, but some excision is necessary. This conventional value of studies assumes greater proportions in the secondary than in the elementary school. Although we cannot disregard it altogether, there is no doubt that the conventional aim is responsible for a tremendous economic waste in education.

Health.—Modern school education is recognizing more and more the importance of physical well-being. Not only is health regarded as an end in itself, but also as an indispensable condition of happiness and efficiency. The architecture and equipment of modern school buildings show the increasing recognition of health in the everbroadening scope of education. Specific instruction in gymnastics and supervised play indicate this recognition most concretely. Medical inspection and school nurses must now be included in every up-to-date school system. Physiology, hygiene, and cooking, directly, and various other curricular subjects indirectly help to build up proper physical habits and ideals.

Happiness.—Without attempting the difficult task of defining happiness, we may take it for granted that it is a most important worldly aim. The genial heart-glow of benevolence, the pleasure of listening to good music, of reading good books, the gratification of a clear conscience, are all highly desirable forms of the mental life. This has been called the sentimental or emotional value of education, but the term does not seem exactly appropriate. Utilitarianism in education is sometimes used to include happiness as well

as the "bread-and-butter aim" above described. The present vocational tendency does not emphasize happiness sufficiently, nor does it seem to discern the true relation between contentment and worldly possessions. For the great mass of mankind the vocation tends to become drudgery. How to employ one's leisure is a problem of the highest importance. "What shall I do?" is perhaps the most vital question which the laborer puts to himself at the close of a day's work. Much depends on the answer to such questions as "What books shall I read?" "What music shall I hear?" "To what theater shall I go?" It is the employment of his leisure which may make or mar the man. Education must therefore strive to furnish a rational measuring stick for pleasures. In literature, art, and the drama the creation of rational standards must be attempted, so that some appreciation of the noble and beautiful may be achieved. The educator must repudiate Spencer's shallow argument that since the fine arts occupy the leisure part of life, they should be allotted only the leisure part of education. For the ordinary unskilled workman, leisure is life; work, mere existence.

Morality.—According to Herbart, all subjects have a moral value, and properly interpreted this is undoubtedly true. Were this an academic thesis, I should certainly have included the pursuit of happiness in the present paragraph. Instead, I am restricting the term morality to a more or less clearly defined set of virtues, all of which are often grouped

together under the head of duty or conscience; for instance, truthfulness, justice, generosity, purity, faithfulness, patriotism. When, in the course of this book, I have occasion to speak of the moral value of a subject, I shall have special reference to one or more of these specific virtues. As we shall see in the next chapter, all education worthy of the name must justify itself by its inculcation of morality in the deepest sense.

Preparation.—There are some subjects or portions of subjects which are of little or no value in themselves, but which form a necessary preparation for the study of some other subject. I shall use the term **propædæutic** to describe this value. Propædæutic or preparatory work may sometimes occupy considerable time, and be relatively complete in itself, or it may be parenthetical in character, holding together the really important parts of a subject—the connective tissue of education, as it were. In a broad sense, all school education is propædæutic, constituting a preparation for life.

Relation of the Values.—Although treated separately for convenience, we must not overlook the great overlapping of these various aims or values. For example, usefulness generally has value for happiness. Many hold that true contentment can result only from morality. Again, it is pleasant to know those things which we are expected to know. Besides, there is the useful side—a reputation for knowing the things we are expected to know will gain us influential

friends. There is thus formed a complicated network—all of which, however, may be included under social efficiency.

Again, the value of any kind of knowledge or proficiency is relative. Proficiency in baseball has chiefly happiness value for the college boy, but strictly utilitarian value for the professional ball player. Knowledge of the function of a carburetor has merely conventional value to the poor bricklayer who can only afford to talk “automobile,” but decidedly utilitarian value to the fortunate one who operates his own car. Conversely, whatever knowledge of laying bricks the latter possesses is entirely conventional, while that of the former is utilitarian.

CHAPTER II

PSYCHOLOGY

Explanation.—It is customary to include a course in psychology in the curriculum of normal schools, and in spite of various adverse criticisms, the common-sense of education favors the study of this science. In this chapter no attempt will be made to give an exhaustive or even a comprehensive view of psychology. My purpose is rather to fix with some degree of definiteness the terminology which I shall employ in this book and to emphasize those portions of mental science which seem to me to have a direct bearing upon method. It may not be amiss to state what to most should be patent, that no amount of psychological knowledge can make a teacher. The thoughtful teacher, however, will find that a grasp of fundamental psychological conceptions will aid her considerably. It will serve as a searchlight to illuminate her experiences, revealing frequently the cause of success and the reasons for failure. So far as the teacher is concerned, psychology is to education as physiology is to hygiene. It is not necessary for the ordinary health-seeking mortal to know the exact microscopic constitution of the retina in order to preserve his eye-sight; nor is it necessary for the teacher to wade

through an exhaustive analysis of attention to know that pupils must be attentive in order to learn.

Kinds of Knowledge.—We may, for convenience, divide knowledge into three classes, viz., **subjective**, **objective**, and **ejective**.¹ Subjective knowledge is knowledge of one's own mental states. The exhilaration of an ocean breeze, a slight headache and eye strain, represent elements of subjective experience as I write these words. I use the term objective knowledge to designate all knowledge gained through the senses. The external world is objective to me. In a philosophical sense, of course, all objective knowledge is also subjective to the individual observer. A gull winging its flight above me, the swish of the waves, the paper on which I am writing, are all elements of my objective knowledge. By ejective knowledge, I mean all knowledge that is absolutely "thrown out of" my own consciousness. I infer the feelings and ideas of other living creatures by their actions and words. I have no direct knowledge of their mental states. We gain subjective knowledge by introspection, objective knowledge by observation, and ejective knowledge by inference. These three methods—**introspection**, **observation**, and **inference** are all essential to a knowledge of mind.

Importance of Ejective Knowledge.—The older psychologists depended almost entirely upon introspection. This made their psychological work narrow and unscientific. In modern times, scientific methods,

¹ This useful term, I believe, was first used in this sense by Clifford.

particularly experimentation and statistics, have practically revolutionized the study of this subject. Even to-day, however, psychologists find it extremely difficult to make due allowance for individual differences. It is hard to get another person's viewpoint, to estimate his feelings and ideas. We constantly project ourselves into the minds of others. The difficulties attending ejective knowledge are increased many fold where there are great differences of age, of race, or of sex; and when we attempt to comprehend the minds of lower animals, we may well stand aghast.

These difficulties may be illustrated by the odd workings of sympathy, which, as its etymology implies, involves the attempt to gain ejective knowledge. The young father of an infant is frequently much distressed by the crying of his offspring. Much of the parent's perturbation is due to his inability to prevent the projection of his own consciousness into the mind of the child. Inevitably he reasons that the pain or agony causing the infantile outburst is as intense as would be required to cause a similar outburst in him. This peculiar working of sympathy often goes so far as to cause feeling for the lifeless corpses about to be laid in the cold earth. If the emotional life of fish has merited all the feminine sympathy spent upon them, horrible, indeed, must be their sufferings.

However, in spite of the difficulties and uncertainties of ejective knowledge—due largely to the inevitable projection of self—all human beings are constantly endeavoring to employ it. Teachers especially are required to gauge the mentality of their pupils.

There is not a lesson which does not necessitate an appraisal of the mental response of the class, and it is largely this ejective uncertainty which makes self-activity so important in pedagogy.

Sensation, Perception, and Apperception.—A scientific classification of the sensations would be out of place here, nor is it particularly important for the teacher. Sensation is to psychology what the atom is to chemistry—a hypothetical entity of merely theoretical significance. A sensation, to be of value, must be apperceived; that is, it must be made a part of some more or less elaborate group of ideas. This apperception may range from our hazy ideas of time and place when first awakened from sleep, to the clear understanding of a mathematical problem upon which we have concentrated our attention. An elaborate group of ideas is often called an apperceptive system. Intelligence is proportioned to the number, perfection, and interrelationships of apperceptive systems. A well ordered mind approximates a well organized army with its battalions, companies, etc., in proper subordination, while over all stands the commander-in-chief. Perception is but another name for that kind of apperception through which we gain objective knowledge. The muscular sense, and the senses of sight, touch, and hearing, are the principal channels of perception.

Attention.—Attention is dependent upon an important fact of mental life; that all parts of consciousness are not equally clear or intense at the same time. For education, attention is the most important concept

of psychology, as all knowledge depends upon clearness of mental view. The slightest introspection will readily reveal the characteristics of attentive consciousness. The state of mind receiving attention becomes clear, distinct, vivid, and, what is of greatest importance, significant; that is, it calls up and fuses with various related ideas. The significance or "meaningfulness," resulting from attention is but a form of apperception. In fact, attention and apperception are two aspects of the same mental condition. When we say attention, we refer particularly to the process, whereas apperception refers rather to the product, the whole mental state. The fuller the idea group, the keener the comprehension and the easier the retention. If we compare the mind to a hotel, we may say that the mental states receiving attention are the permanent boarders, and the others are mere transient guests.

In the light of what has just been said about apperceptive systems, a new significance is given to the query: "To how many things can we attend at once?" It comes down to a consideration of what we mean by one thing. The child who has learned the surface and drainage of a continent as two inter-related facts naturally groups them. In fact, in attending to them, he is in reality attending to but one thing. *E pluribus unum* is the real maxim of intellectual education. What we call intellectual power shows itself particularly here. To Newton, the movement of the heavenly bodies and the facts of terrestrial gravitation became one thing. So Napoleon and

Mozart—each in his own field—grasped tremendous unities where the ordinary mind would be lost in a maze of unrelated detail.

We may remark, in passing, that what teachers call inattention is generally different from the state of listlessness to which psychologists apply the term. In the class room the inattentive pupil is he who is very intent upon **something else**. Pedagogical inattention is thus rather an ethical than a psychological condition. The pupil is inattentive to what he *should* attend to.

A distinction is often made between attention with effort, and free or disinterested attention. The former is called voluntary and the latter non-voluntary attention. Uncontrollable attention to some sudden sight, sound, etc., may be called involuntary attention.

Representative Consciousness.—All mental development depends upon the power of retention. Every percept or mental state leaves a physiological modification which may or may not cause its recall. We give the name **idea** to recalled mental states or percepts. The term **image** is also frequently used. If the idea or image closely resembles its original, and is thought of as belonging to some definite past time, we are said to remember. This is **memory**. When the ideas are not definitely localized in the past, or are combined in various new ways, we call the process **imagination**. The recall of ideas, whether in memory or imagination, depends upon certain conditions, which have been generalized by psychologists into the "Laws of Association." The most important of these laws are those

of **contiguity** and **similarity**: An idea A tends to call up the idea B if it has occurred at the same time with it in past experience or if it resembles B. (Contrast would be a special case of similarity.) Moreover, the recall of the idea B would depend upon the **frequency**, **recency**, **intensity**, and **degree of organization** or apprehension of its connection with A. The pleasant or unpleasant consequences of ideas and acts are potent influences in determining associations positively or negatively. Of these secondary considerations, frequency and degree of organization are the most important. The influence of recency is potent, but for a short time only, as any one who has crammed for an examination can testify. Intensity as a force for recall is more important. The efficiency of interest as a factor of instruction depends largely upon its intensification of ideas.

In popular language, imagination is often confused with fancy. Psychologically considered, imagination is any form of mental combination, and thus bears a vital relation to all acquisition of knowledge. All learning from verbal description illustrates imaginative activity. It is here particularly that the teacher must constantly test the pupils. Pictures will be found a tremendous aid to imaginative activity, as they bring before the pupils simultaneously what verbal descriptions give only piecemeal and seriatim. Training the imagination is not a matter of negative control, but depends rather on a well stored and well organized mind. The habit or ideal of testing imaginative results should be constantly fostered. Child-

ish flights of fancy do not show, as is popularly supposed, that children have stronger imaginations than adults, but serve rather to indicate the absence of the inhibitive influence of organized knowledge.

Creative Imagination and Originality.—By creative imagination is meant not the creation of something absolutely new, but rather a combination of old materials—ideas or images—in a new way. When this combining or grouping is determined by criteria or standards possessed by the individual himself the work of imagination may be called original. From this point of view, sincerity or self-realization lies at the basis of all true art. The child who takes a conventionalized flower or leaf form, and develops it under the guidance of a controlling decorative idea of his own is to that extent an artist. Utility and truth, as well as beauty, guide imaginative activity. The inventor and mathematician employ imagination quite as much as the sculptor or romancer. Any real training of imagination must therefore include the building up of good standards of the Greek trinity—the Good, the Beautiful, and the True.

Kinds of Imagery.—Introspection supplemented by experimental and statistical research has revealed the fact that individuals differ greatly in mental attributes. These differences are probably due to heredity and chance variation. Perhaps nowhere are the varieties of mental life so strongly in evidence as in the prominence of certain types of imagery in different individuals. Of course, every kind of sensation produces within each brain a modification which may

lead to the recall of an image. These images are, however, of very different degrees of intensity. Tastes, smells, and various organic sensations are seldom clearly recalled. Sights, sounds, and sensations of movement give as a rule much more vivid images. We use the terms "visiles," "audiles," and "motiles" to designate individuals whose imagery is predominately visual, auditory, or motor. Much so-called visual and auditory imagery is in reality motor. The delicate movements of the eyes in the one case, and of the articulatory organs in the other, play a prominent part in the production of these images.

Ideas of Relationship.—These form an important class of ideas which are not precisely images of sensation. As their designation indicates, they are ideas of relation between other ideas. These relationship ideas are of great importance, as the apprehension of relationships is a distinguishing characteristic of intelligence. The mental states corresponding to such words as *if*, *and*, *although*, *but*, etc., illustrate this type of idea. Much of what the older psychologists called training of reason might be epitomized as furnishing the mind with a stock of relationship ideas, and giving the pupil practice in using them. It is from this point of view, rather than from that of formal discipline, that we are justified in attributing to grammar the power of logical training.

General Ideas.—The images and ideas which we have hitherto considered have been of individual or particular experiences. Most ideas, however, are not of this character. When we say "horse," or "beauty,"

or "king," we are thinking, not of some individual horse or beautiful object or monarch, but rather of a class to which these individuals belong. Such class ideas are called by various names, such as **generic images**, **notions**, or **concepts**, the last term being the one most commonly used. Most concepts are formed by the aid of language. It is probable that the lower animals being devoid of speech are also devoid of general ideas. Hearing the same name applied to a number of different individuals of a class, an association is formed between the name and the essential features, the resulting idea being what psychologists call a **generic image**. The term **concept** is applied to the idea which is free from all imagery, the word simply calling up the essential features. These essential features form what logicians call the **connotation** of the term. When expressed in words they constitute the **definition**. The word **denotation** is used to embrace all the objects of the class. Thus the connotation of "ocean" would include, largeness, salt water, etc.; the denotation would name the five oceans. When the connotation of a word is too large, its denotation becomes too small, and *vice versa*. In either case the concept is inaccurate. A child who includes redness in the connotation of "rose" would fail to recognize a white rose, while the failure to include gill breathing in the connotation of fish would lead to calling the whale a fish. The formation of clear accurate concepts is a large part of the process of education. Rational language study hence assumes vital importance.

Definition.—The purpose of definition is in general

to fix a concept after it is formed. Provisional, tentative definition may, however, often precede the full or accurate definition. Thus a synonymous expression for a new word explaining it in its present context is often sufficient for the time being. The old education failed in that it demanded exact definition before the idea was formed with any idea of definiteness. A word should be used frequently in great variety of denotation before a definition is required. It is only in this way that rational mental growth can be obtained. The concept is a flower whose perfection depends upon a fertile perceptive soil and constant nourishment. To teach the concept "preposition" to an elementary school pupil by means of a definition is about as sensible as sticking a cut rose in the ground and expecting it to thrive. In fact, we go through life with much of our vocabulary representing unanalyzed, undefined concepts. Real definition is usually unnecessary except in connection with the words that occur in our special line of interest or profession. The grammar school pupil who can unerringly pick out every preposition in a printed page and explain its use has accomplished all that should be required, and probably has a better grasp of the subject than the pupil who can glibly recite the abstruse definition. Definition finds its more appropriate place in secondary education, although even here its use is beset with grave dangers.

Judgment and Reasoning.—When we affirm or deny something of something else, the process is called judgment. Expressed in words, a judgment becomes

a proposition. Thus "Iron is a metal" is a proposition. Logicians call *iron* the subject, *metal* the predicate, and *is* the connective or copula. It will readily be seen that accurate judgment depends upon accurate conception and on the powers of analysis and comparison.

Inference or reasoning makes use of judgments to arrive at that which was previously unknown. Reasoning is of two kinds, inductive and deductive. **Inductive reasoning** proceeds from particular observations or experiences and goes to general truths or laws. Thus the law of gravitation is an inductive generalization based upon innumerable experiences. **Deductive reasoning** goes from the general to the particular. The mathematics are in the main deductive. Geometry, for instance, on the basis of general definitions and axioms, demonstrates a great variety of theorems. Inductive and deductive reasoning are closely related, however, deduction constantly verifying the validity of inductive generalizations while induction groups and tests masses of deductive inferences.

Practically all **explanation** is deductive in character. It consists in finding the general law under which the particular problem can be subsumed, and then deducing the solution from the general law. The pupil who knows the relationship of the sides of a right triangle has the explanation of various problems as soon as he understands that certain lines are hypotenuse, perpendicular, etc. To prove "prompting" a specific case of dishonesty or deceit will generally make clear the explanation of its evils. This view of explanation

will be found to be of great service in countless applications of pedagogic method.

The Feelings and the Will.—This rough sketch of psychological principles would be incomplete without some slight reference to the feelings and the will. It may suffice to remind the reader that the mind is a unity. We must constantly be on our guard against too mechanical a view of the contents of consciousness. For clearness of description, the powers of the mind are considered separately, but in reality, no such separation exists. Every mental state is not only intellectual but affective and conative as well. Of the various affective states, probably the most important for education is interest. The feeling of curiosity or wonder is the beginning of knowledge, and throughout life, interest engineers the mental train. The development of permanent worthy interests is essential to all true education. From the ethical standpoint, egoism must gradually give way to altruism.

So far as the will is concerned, psychology's most useful contribution to pedagogy has been that of the Herbartians. Will depends upon the strength and organization of apperceptive systems. Control of the will means practically control of our ideas. A mind well stored with systematized idea groups, constantly directed by worthy interests and controlled by noble emotions and ideals, represents the goal of educational endeavor. In other words, the aim of education is character.

CHAPTER III

METHOD

Method vs. Device.—It is the purpose of this chapter to clear up some misunderstandings and develop some general views in regard to method. In the first place, we must carefully distinguish between method and device. The former term is general, the latter specific. That interested attention is necessary to lasting knowledge is a fundamental principle of method; employing colored chalk to secure this attention is a device. Much pedagogic literature fails of its purpose because it is either too general and abstract for the ordinary teachers to apply or too specific to be of use in the diversity of situations in actual class-room work. Real pedagogy should inspire, but it must also direct. Misguided enthusiasm is almost as bad as lifeless instruction. The philosophy of sound method is of inestimable value to the teacher in so far as it gives her a scientific attitude toward reforms as distinguished from fads. The live teacher who attempts to keep abreast of the times is called upon almost daily to make this distinction.

Education and Training.—Every teacher who pretends to be an educator should grasp the distinction between education and training. The word training,

strictly considered, should be applied only to the brute creation, very young children and the feeble minded. It is nothing more or less than building up associations on the basis of their pleasant or unpleasant consequences. The colt which feels the pain of the bit whenever he does the wrong thing, soon ceases. Many specific associations of this kind are made until all are formed that the animal's master thinks desirable. Training is then complete. Education, on the other hand, begins with training, but goes far beyond any system of mere associations. While pleasant and unpleasant consequences of acts still have considerable motive power, the mind is governed by general ideas and principles, instead of by specific images. The growth of language has an important bearing upon the growth of education. The educated person, by means of his stock of generalizations, can react to novel situations in novel ways. Judgment and reasoning take the place of mere association. In this sense, man is, as Rosenkranz points out, the only educable being.

Recapitulation.—The doctrine of evolution has led practically all modern scientists to view humanity as but a link in the chain of the animal creation. This doctrine has had a profound influence not only upon biology, but upon psychology and pedagogy as well. Among its numerous implications, that which interests us particularly is the theory of recapitulation. Baldly stated, this theory maintains that each individual goes through somewhat the same course of development as the race. The necessary inclusion of the word "some-

what" indicates the uncertainty of the applications of the theory. We could scarcely demand, for example, because the religious development of the race has been from polytheism to monotheism that such should be the religious education of each individual. The fact, however, that oral language was used for perhaps hundreds of thousands of years before written characters were invented, has an important bearing upon instruction in written and oral speech. The greatest value of the theory of recapitulation, so far as education is concerned, seems to lie in its reinforcement or corroboration of principles worked out on a psychological or experimental basis. An illustration of this is afforded by the intellectual epochs or stages of development from the predominance of perception in childhood through imaginative activity in youth to the logical process of manhood. Again the pedagogical maxims: "Proceed from the simple to the complex," "from the vague to the definite," "from the experimental to the scientific" receive additional force and confirmation from the Recapitulation Theory.

The Fundamental Steps.—There are three fundamental phases of every real teaching process, viz., **preparation, instruction** (sometimes called **presentation**) and **fixing**. Although these three phases often overlap, they should be considered separately.

The first of these, though extremely important, is sometimes disregarded. In teaching any subject the first question to be considered is one of ejective knowledge. "What ideas are now in the pupils' minds which can be used as an apperceptive basis for the new

lesson?" "To what extent must they be intensified, cleared up, rearranged or otherwise modified?" Sometimes several lessons must be entirely devoted to the stage of preparation. Oftentimes the most effective preparation consists in arousing in the pupils' minds the feeling of the need of the new knowledge. This amounts to a state of expectant attention—a most favorable receptive attitude. A child who has solved problems involving the square roots of perfect squares such as 9, 36, etc., is apt to be ready for the explanation of the process of extracting the square root of 8.

Instruction.—Under this head might be included all pedagogic method, but I limit the term to that important phase of the teaching process intervening between Preparation and Fixing. By far the most important principle of instruction is that of Self Activity. As was pointed out in the previous chapter, the uncertainty of ejective knowledge, even if there were no other reason, would render self activity indispensable. A teacher may describe and explain never so elaborately, and still her instruction may reach but a portion of the class. No two minds work at exactly the same rate or in exactly the same way. The pupil who finds out something for himself has not only the something but also the mental organization involved in the process of getting it, not merely the flower but the root and branch as well. The mental flower thus grown will thrive and new buds will spring from the same stem. This is not a mere figurative analogy, but one that will justify faithful application. But self ac-

tivity requires constant watching and guidance. If the class, as a whole, is to attain the intellectual goal E, let the teacher set up a number of intermediate goals, A, B, C, D, each of which is to be reached by the pupils' own exertions. By careful tests and individual observation see that A has been reached before B is attempted. So long as systems of class-room organization require that all the pupils of a certain grade shall be driven abreast, hopeless differences of intellectual level must be avoided. Of course there are many things which a class must be told, many things which it would be a waste of time to attempt to develop. Nothing but tact and pedagogic insight can decide these points. In spite of some recent slurs and burlesques upon the development methods of instruction, it is probably true that most teachers tell their classes too much, and miss many splendid opportunities for self activity.

Analogy from Mechanics.—Much of the telling or explaining that goes on in the class-room results from the fear that too much time will be required for self active methods. This is usually an unwarranted and fallacious fear. Short-cut methods in education are generally bad. A few things, known thoroughly and worked out by the pupils themselves, will often expedite the acquisition of subsequent knowledge. We gain time by losing it. The well known mechanical principle of the lever has an illumining bearing upon education. An important form of leverage consists in gaining power at the expense of time. By a proper system of pulleys, one man can, though very slowly,

raise a weight of ten tons or more. What is lost in velocity is gained in power. So it is in education. Where no time is wasted but serious work earnestly and steadily performed, a tremendous mental power may be developed, a power which will render the acquisition of later knowledge easier and more expeditious. The stored-up energy will, as it were, readily convert itself into subsequent velocity.

Kinds of Instruction.—Many different types or kinds of lessons have been described and named by educators. Many of them, such as the **Socratic**, are really included under self activity. This method, named for the Greek philosopher, is generally applied to that form of instruction which consists in classifying, arranging, and oftentimes labeling knowledge already in the pupils' minds. The teacher questions so as to bring out the desired points, e. g., any grammar school child has sufficient knowledge of nouns and verbs to render the Socratic teaching of these parts of speech relatively simple.

The terms **inductive** and **deductive**, as applied to method, are self-explanatory. Where generalizations are to be taught, the teacher should see to it that sufficient details are grasped by the pupil to be used as a rational basis for the law or principle. This is inductive. The rules of spelling illustrate a series of such generalizations which grammar school pupils might advantageously work out inductively. The deductive method is exemplified in every case where a general principle is appealed to to explain some particular fact. Much of the teacher's work is thus de-

ductive in character, e. g., the respiratory movements are most satisfactorily taught as deduced from the laws of atmospheric pressure.

Analytic and **Synthetic** should be carefully distinguished from Inductive and Deductive methods. Analysis proceeds from the whole to the parts. An analytic method of teaching reading starts with the sentence, then takes the words and finally the component sounds. Synthesis, on the other hand, begins with the parts and builds up the whole. A synthetic method of teaching geography would begin, not with the world as a whole, but with the various land and water divisions and combine them into a mental world. Analysis and synthesis supplement and complete each other.

The **Type Method**, as its name implies, consists in building up a typical or representative view. It aims at the same end as the Inductive Method but attempts to attain it in a different way. Instead of a number of individual cases being examined and compared, one typical case is minutely and elaborately considered, care being taken that the salient or essential characteristics shall stand out prominently. The connotation is thus emphasized as it would be in a definition, but the elaborateness and interest of this method lift it far above mere defining. We may take an illustration from the study of United States history. The early voyages of discovery and exploration had many points in common. Instead of studying each one separately and independently, one should be taken and taught in as interesting and elaborate a manner as

desirable. The other voyages could then be taught in reference to the type, differentiating points being emphasized. Teachers will find the type method of teaching an interesting way of presenting a great variety of topics.

The **Lecture Method** has little, if any, place in the elementary school. Except as illustrated by lantern views or other objective helps, this method is risky, even in secondary education. Its lack of appeal to self activity is its principal condemnation. In connection with university work where the subject matter is not to be had in book form or so scattered as to be practically inaccessible, the lecture method may become necessary.

The **Text Book** as a method of teaching is capable of various uses. It is highly important that the pupil should be able to obtain knowledge from the printed page. To help him to do this is an essential part of the teacher's work. A simple and helpful method is to require the pupils to write the answers to some carefully selected questions. Study of a text—either in school or at home—can thus be given a much needed definiteness. The giving of these questions may either follow or precede the teaching of the lesson. With older pupils, it is a good plan to have them write the questions and then distribute commendation according to the insight shown into the salient features of the lesson. Practice in abstracting portions of the text is invaluable for older pupils. This is as difficult to do well as it is useful, and requires the teacher's constant guidance. These are but a few sugges-

tions of ways in which the text book may be made a definite help. Unfortunately some teachers still assign pages to be studied with no suggestion or directions as to **how** to do it. Their vexation at the results of such assignments is ample retribution for them, but what about the children?

Fixing.—After the instruction or presentation, and often during it, comes the factor of fixing what has been learned. By fixing, I mean more than mere retention or power of recall. I mean that thorough organization of the knowledge that will serve to recall it at the proper time and in the proper way. Knowledge is not really fixed until it is an integral part of the whole mental content, until it is bound up with worthy motives and ideals and can be applied intelligently. Thus the fixing of knowledge becomes the most important aim of teaching. What we call drill is, of course, a part of the fixing process. Repetition is necessary to give the knowledge permanent mental lodgment. But this repetition must not be lifeless, not monotonous and dull. The absence of novelty must be compensated for, else interest will flag. A large factor of the teacher's success consists in her ability skilfully to disguise repetition. **Reviews** are of extreme importance. They should not be a mere rehash of the subject matter, but should present it in fresh guise, emphasizing wherever possible, larger unities and new relationships, thus weaving the knowledge into the whole mental fabric. More important still, reviews should reveal new and interesting **applications** of what has been learned. In this manner the

practical or ethical end of teaching is secured and it approximates or actually becomes real education.

Learn to Do by Doing.—Although almost all that has been described above in regard to method has had reference to intellectual development, the same principles apply with equal force to the active or doing side of mind. The old adage “We learn to do by doing” has a sound psychological basis. Just as in the growth of intelligence the concept properly formed is the flowering of a varied perceptive experience, so in the arts, muscular facility or proficiency is the outgrowth of a number of distinct attempts. The result is a motor attitude—a kind of muscular concept. This arises from repeated associations between the essential movements and the desired result. The superfluous or accidental movements come to be ignored and omitted, until finally there remain only those movements which are necessary. The teacher can expedite the process by commending good attempts, by emphasizing the essential factors and discouraging the unnecessary. The force of example is also potent. Grace is the æsthetic description of the absolute elimination of the unessential elements. The pupils’ own efforts are as indispensable in acquiring a manual art as they are perhaps in the building up of the concept.

The Test.—It is the uncertainty of ejective knowledge which makes necessary constant testing. This will be an essential factor of the teaching process until phrenology, telepathy, or some other way of getting at the mental contents of others has been perfected. This is as likely as the establishment of com-

munication with Mars—not impossible but not apt to occur tomorrow. In the meantime, the teacher must not be misled by prompt responses of a few bright pupils into the belief that the class as a whole comprehends her instruction. Nor can polite, quiet demeanor always be construed as indicating real attention. This if any phase of the teaching process demands eternal vigilance. Tests may be formal or informal, oral or written. They enter with equal importance into each of the three steps—preparation, instruction, fixing.

The term **recitation** has often been used to mean an exercise where the pupils' knowledge is tested and the results, it may be, recorded. Recitation is one of the altogether too numerous pedagogical terms which have been used in so many different senses as to be rendered almost worthless. Although used by some writers in so broad a sense as to include the entire process of teaching, usage seems to warrant the application of the term to the testing (usually oral) of the pupils' knowledge. It is in this sense that the term will be used in this book.

The oral work of the pupil is frequently much more than test. It is good teaching oftentimes to require a pupil to recite that which we are sure he knows thoroughly. Self-confidence as well as a more complete organization of his knowledge result from such exercises. The bright pupil should be given more opportunity to express himself. *Docendo discimus* might be construed by the pupil as "We learn by reciting."

The Examination.—This term is also indefinite. Usage seems to restrict it to a kind of formal test (generally, though not always, written) of a rather extensive character. Examination is a test of work covering a rather long period—a month or a term—or of the completion of a certain portion of the course. Such reviews undoubtedly have great value. Not only does the examination give the pupil a means of appraising his own progress, but the intensive preparation which it necessitates is especially valuable to older pupils. Examinations have fallen into some disrepute in various sections of the country, largely because they have attempted to test the pupils' fitness for promotion as well as to establish for the teacher a standard of work. As was pointed out long ago by E. Emerson White, this double attempt is foredoomed to failure. The logical person to give the examination is the teacher herself. Occasionally she may profit considerably by an examination assigned by some one else—principal or superintendent. Such examinations should be prepared with the greatest care, so that the work may be really standardized. Properly conducted, they are inspiring to both teacher and pupil. They should as a rule be unheralded and in no way influence the promotion of the pupils.

The Program.—Writers on education emphasize the fact that certain subjects are more fatiguing than others, require more concentration or effort. It is natural to put these subjects in those parts of the day when the mind is most vigorous. This would be early in the morning session or after a period of re-

laxation. There is considerable ambiguity in these statements. Mathematics is generally regarded as a difficult subject, yet some portions of it are decidedly easier than many parts of history or geography. Most educators put gymnastics among the very fatiguing subjects. Others regard it as a form of relaxation. The fact of the matter seems to be that the learning of new gymnastic movements does make a considerable demand upon voluntary attention, whereas the practice of movements which have become automatic furnishes a good form of rhythmic relaxation. The learning of any new subject requires concentration. It is therefore a mistake to relegate any particular subject to the fag end of each day. Every program should be flexible enough to admit of shifting subjects from day to day. It is probably an unwise procedure to prepare a definite program for a longer period than a week. It is also necessary to remember that young children cannot concentrate for so long a period as older pupils. The length of a lesson demanding attention varies from about ten or fifteen minutes in first grade to thirty or forty-five minutes in the highest grades and high school. To a certain extent, relaxation is provided by suitable changes of subjects. For example, a difficult arithmetic lesson might wisely be followed by rote singing or automatic gymnastics; grammar by history, etc. It is no easy matter to arrange a satisfactory program. The considerations above outlined will be found helpful. Of course, recesses or periods of complete relaxation must also be provided. The time allotment for the various sub-

jects has not been discussed in this connection, as it is generally provided for by the superintendent or principal.

Correlation.—As was pointed out in the previous chapter under attention and apperception, the really educated mind is the well organized or systematized mind. The application of this psychological fact is too obvious to need further illustration. The term correlation is often applied to the grouping or connecting of kinds of knowledge. Countless opportunities for correlation will present themselves to the live teacher. The land and water divisions of eastern America can be most economically taught synchronously with the history of the early explorations. The correlation of certain laws of physics with the teaching of physiology will be apparent. If dictation exercises are used, they would better furnish drill or review of topics already learned. So various mathematical problems give similar opportunities. Thoughtful correlation will enable the teacher to do more effective work in a shorter time. Many of the so-called ills of an overcrowded curriculum may thus be remedied. At the same time, there is secured for the pupils the larger educational good of mental organization.

PART II—METHODOLOGY

CHAPTER IV

READING

What Reading Is.—Reading has secured its prominent place as the first of the three R's by merit and not by mere tradition. Like many other educational terms, the word reading is used in different senses. There are at least two widely different notions implied in the term, first, getting the meaning from the written or printed page, and, second, uttering the words aloud for others to understand. These two notions are so distinct that I reserve the second for separate treatment under the head of Oral Expression. It would undoubtedly be a great gain if these two notions were kept more distinct in the class-room. This chapter will concern itself entirely with reading in the first sense—getting the meaning from the recorded words. Two fundamental problems press for solution; first, teaching the child **how** to read, and, second, determining **what** he shall read. The first is a problem of pedagogical mechanics; the second practically identifies reading with literature in its broadest sense.

Value of Reading.—The great value of reading (in

the first sense) is evident. So essential is reading to any kind of proper or useful citizenship that many governments have made school attendance compulsory. The time is probably not far off when none but the mentally deficient will be unable to read. I need not dwell upon this obvious utilitarian value. As a means of aiding in the attainment of happiness, the ability to read is also of great value. The educated man is never lonely while he has a book. The inexhaustible ocean of literature ripples along the glimmering sands or dashes its spray against the rocks for an appreciative reading world. There is an old German adage that man is what he eats; it would be truer to say that man is what he reads. So far as the happiness and moral values of reading are concerned, the schools can give to their pupils nothing better than a taste for good literature.

Primary Reading.—The method of beginning reading has been a prolific source of dispute among writers on education. The end to be attained is simple so far as its statement goes, viz., to enable the child to translate immediately the visual symbol (the written or printed word) into the auditory and articulatory symbol (the spoken word). The nature of the language will, of course, influence the methods to be used. In an unalphabetical language, like the Chinese, there must be a separate association between each word and its idea. In a phonetic language, like German, the task is comparatively simple. In English, the teaching of reading is tremendously complicated by the silent letters and varieties of sound for the same let-

ter. The so-called absurdities of English spelling (of course they are not absurdities, but results of well known historic causes) have led to a number of special devices to facilitate the first teaching of reading.

The Psychological Basis of Reading.—The child comes to school with a considerable vocabulary. Even at the age of three or four, children can often converse quite glibly. All their words are symbols of more or less distinct ideas. These ideas may be of objects, actions, feelings, classes, relationships, or what-not. Most of them are somewhat general in character. When a young child of four or five years hears the word “dog,” it probably calls up a hazy generic image of dog as a class idea. In other words, the spoken or heard word has associated itself with an idea of a somewhat general or conceptual character. If this represents the condition of the pupil’s mental content on first entering school, it would seem unpsychological to attempt to build up new associations between the visual symbol and the general ideas. Rather let the old associations with the auditory symbol stand, and connect the new visual symbol with the auditory. It will not be long before the visual will at once call up the idea, but it should do so at first through the medium of the spoken word. When the written or printed word “cat” unfailingly suggests the spoken word cat to the child, the teacher may feel satisfied that he can read the word. He may not be able to describe or define a cat, but the teacher’s specific work in this case is reading, not zoology. Illustrations add greatly to the interest of a reading primer, but they should not be

used instead of words. The written word does not stand fundamentally for the object, but for the spoken word. What is the teacher who insists upon the written words calling up the objects going to do with those easy words like if, go, with, and, etc.?

Considerable corroboration is given to the theory here maintained by the Recapitulation doctrine. When we consider how recent has been the invention of writing, we can realize that for ages the great concepts of life and destiny as well as countless less important generalizations have been crystalized in oral and auditory symbols. It is but natural that the life of the child should take the same course.

Sight Words.—It is a good plan, and one often followed, to begin the work in reading by teaching a number of familiar words in short sentences. These words, known as sight words, form the basis of subsequent work. They should be words taken from the vocabulary of the pupils in the class. This is important as it is absolutely necessary that from the very beginning the pupils should regard writing or printing as but another kind of symbolism. Again, consideration should be given in the selection to words which will furnish suitable material for later phonic analysis. The first month of the term might be well spent in familiarizing the class with a number of sight words, using them in various interesting combinations and encouraging the pupils to suggest little sentences and write them upon the blackboard and on paper at their seats.

Teaching Phonetics.—The title of this paragraph

sounds rather ambitious as applied to the teaching of first grade pupils. Still, an elementary course in phonetics seems the only rational way of unlocking for the children the doors to the rapid, successful acquisition of reading. As was stated above, the matter is complicated by the unphonetic character of the English language. Various systems have been devised to overcome the difficulty. The names of the letters, as in the old alphabetic method, are no longer used. They added obviously one more complication. If our letter names had been as distinct from the sounds as was the case in Greek, they would not have constituted such a disturbing factor. Each letter should be a visual symbol suggesting a certain sound. All the interesting devices possible, pictorial or other, should be used to intensify these associations. They must be fixed by drill. Silent letters may at first be indicated either by a light line drawn through the letter or a variation in type, the latter method being perhaps the preferable. There are various combinations of letters (compound phonograms) which have the same sound in numerous words (*ough* is not one of them). *Ight, tion, ain,* etc., illustrate such groups. These may profitably be taught as compound symbols, receiving the same kind of drill as the individual letters. The synthesis or blending of the phonic elements of a word is an important and intrinsically interesting exercise.

Although phonetics, as above outlined, furnishes the key to ever so many words, there remains a great number in the unclassified column. All of them have

some phonetic element, even *aisle* contains an *i* and an *l*. It is of doubtful wisdom to attempt to give the pupils rational associations with such words. The phonetic elements in the words will probably make some appeal to the pupils anyway. These words are best taught as wholes, to be recognized promptly and pronounced when seen. The writing of such words involving, as it does, an exact knowledge of their letters will be considered in a subsequent chapter on spelling.

Script and Printing.—It seems desirable that the beginnings of reading and writing should go hand in hand. This necessitates that the first reading shall be from script letters. It would be confusing to use both the script and print forms. The transition can readily be made later. It should not be attempted before a good stock of sight words has been acquired. In fact, it would not be amiss to spend the entire first term on script forms alone. The transition to print will be rendered easier if the system of penmanship is comparatively simple, i. e., if it approximates the print forms.

Learning the Alphabet.—Learning one's A, B, C's, as the cornerstone of education, still maintains much of its traditional force. This is especially true of persons not pedagogically trained. The names of the letters in their proper order has considerable utilitarian value, as the alphabetical order is the natural one in dictionaries, directories, various books of reference, indexes, etc. The child would scarcely have occasion to need the alphabet before the third

year of school life. It might profitably be taught at the beginning of that year to those who have escaped its acquisition in the nursery. When the makers of children's toy blocks and picture books feel the influence of modern pedagogy, the teaching of the alphabet will assume greater importance as an element of the curriculum.

Advanced Reading.—By the end of the first year and a half or two years, the child should have conquered the mechanics of reading. The printed word should immediately suggest the spoken word, and in the case of familiar words, the visual symbol will generally suggest the idea. The treatment of unfamiliar words now assumes importance. In the first four years of school life, it may be laid down as an important principle that new words should, so far as possible, be introduced orally and become part of the pupils' vocabulary before they are read or written. This is a logical outcome of the same psychological principles which led us to insist on the association between the spoken and the written word in the beginning of reading. A large part of the elementary teacher's work should consist of enlarging the pupils' spoken vocabulary.

As the child grows older and develops intellectually, he will frequently meet new words in the visual or printed form. This is unavoidable. Often the teacher will find it wise merely to give a synonymous expression for the word in its context, relying on its recurrence in various contexts to fix the concept. Some words may remain mere sight acquaintances

and never enter the realm of spoken language. For most persons this result is inevitable. The colloquial vocabulary differentiates itself, and properly so, from the literary. The validity of this distinction is coming to be recognized not only in this connection but in grammar as well.

In the higher elementary grades, pupils should be encouraged to use dictionaries. The value of the dictionary habit will be discussed more fully in the next chapter. Here it may suffice to direct attention to the necessity of using the dictionary to ascertain the meanings of unfamiliar words. The direct aim is to enable the pupil to grasp the meaning of the word in the context where it has occurred, not necessarily to enable him to use the word himself.

Advanced reading, in the sense of thought getting, should include much silent reading. This has an economic advantage in that the whole class can do it simultaneously. In addition, it prepares the child for the reading of adult life which is almost always silent. The study periods of school life are all, in a way, reading exercises. Whether the material read is poetry or geography, it should be followed by searching tests and interesting commentary by the teacher. These tests should not be merely of the child's recollection and comprehension of what has been read, but should also test the sprouting of his attention. Ideas related to and springing from the subject matter are often of greater value than the mere retention of the passage itself.

What to Read.—The second problem of reading as

thought getting concerns the material or what should be read. As was pointed out in the beginning of this chapter, the wealth of books of all descriptions makes the proper selection particularly difficult. From the utilitarian point of view, the book to be read would be determined by one's view in regard to the practical aim of education. Scientific and descriptive works would of course be included. We may omit from the present discussion those books on history, geography, etc., which though, in a strict sense, reading, are generally included as subjects in the curriculum to be taught in a specific way. The material of reading, exclusive of these curricular subjects, then becomes practically synonymous with literature. In fact, it would clear up pedagogical terminology considerably, if we employed the word literature to designate this whole field of reading in the elementary school.

Courses of study should be mapped out, as they are in some cities, giving specific detailed lists of books to be read. There should also be a clearly marked differentiation among three forms of literary reading work—(a) that which the pupil should read to himself silently (b) that which he should read aloud and (c) that which the teacher should read to the class. The treatment of (b) will be deferred to the chapter on Oral Expression. The determination of (a) will depend upon the age and intelligence of the pupil. The power of literary appreciation varies tremendously among different pupils of the same grade. The reading class should be divided into groups on

the basis of this variation, and different books supplied to different sections. Written answers to carefully selected questions on what they have read should frequently follow this reading.

There are many literary works which young pupils are capable of understanding and enjoying if they hear them well read aloud. The teacher should be supplied with a list of such books and there should be a supplementary optional list as well. Duplication of books in different grades must be avoided. Every teacher should possess the ability to read aloud in a clear and interesting manner. This is as necessary a qualification for the grade teacher as is the ability to sing for the kindergartner.

Nursery Rhymes and Jingles.—Although not usually accorded the dignity of literary worth, nursery rhymes and jingles are an important element of reading material. They form a legitimate part of our social inheritance. Many of them are known to the child before entering school. They thus tend to vivify the reading lesson and make it real and valuable. They should as a rule be read aloud by the children just as most poetry should. Rhyme and rhythm are meant for the ear primarily, not for the eye. There is an additional value in the fact that many of these jingles give a good vocal training as well as an appreciation of metrical construction. If any other argument is needed for the inclusion of this material, it may be said that children enjoy them. Other things being equal, pleasure giving power is a potent quali-

fication for anything. Of course, in the case of the birch rod, other things are not equal.

Fairy Tales and Myths.—These also form part of our social inheritance. It is perfectly just to say to the adult person who does not know who Bluebeard or Sinbad is that his education has been seriously neglected. These romantic characters live in the fanciful world of make-believe, but in a deep sense they are real just the same. Circe, Cinderella, and Ali Baba, none of whom ever lived, are more distinct personalities to my imagination than are Charlemagne and William the Conqueror, both of whom I am told really existed. The joy of expectancy on my little girl's face as she settles down on my knee for a story of fairies or elves but reflects the sympathetic joy in my own heart. When the inevitable "Once upon a time" has rolled up the curtain, happiness reigns supreme. What though the story be not true! It has served a better purpose than countless investigations of bespectacled German scientists. It has made at least two individuals happy. Even hard, dry facts must stand this test before their worth is proved. But after all, facts are only facts. They are but shadows compared with the reality of joys and hopes. Let no one dare carelessly strike down that which has brought happiness to countless souls! The fairy tale will not yield to the narrow dogmatism of science.

Of course there are various kinds of fairy tales. The only sure criterion is the test of time. Human nature has changed but little in the historic period

of the world. Those tales and myths which have survived are best fitted for modern reading. *The Arabian Nights* and Grimm's *Fairy Tales* represent probably the two best collections. Robert Louis Stevenson, Lewis Carroll, and Rudyard Kipling have furnished various fanciful tales which show great insight into child life and child heart. Whether future generations will verify this judgment, time alone can tell.

The moral value of fairy tales must not be overlooked, though we must guard against such an over-indulgence as to make the child dreamy and impatient of life's slow but sure realities. On the æsthetic side, fairy tales lay the basis for the true appreciation of art, which in its best forms makes its appeal to the play of fancy and the appreciation of make-believe. Morally, the fairy tale is to be recommended by the glimpse that it gives of a just distribution of rewards and punishments. Real life will soon enough disabuse the child's mind of reliance on the infallibility of the ethical régime. Many modern writers of stories for children fail in that they make the moral lesson too prominent. Even a child possesses enough human independence to rebel at having his reasonings and deductions made for him. Indulgence in this kind of moral feeding is apt to lead to a "hunger strike."

There is, in conclusion, a considerable conventional value in fairy tale lore. Countless allusions to the characters occur in all forms of literature. Cinderella and Aladdin are referred to as often perhaps as are Moses and Julius Cæsar. Nor are the allusions confined to the characters alone. Even details of the

stories are supposed to be common property of the educated. No footnote should be necessary to explain Longfellow's reference to Hawthorne's unfinished writing:

The unfinished window in Aladdin's tower
Unfinished must remain.

Almost all that has been said about the fairy tale applies with equal force to the myths, heroic tales, and fables which have come down to us. In fact, many of them are in substance the same. Sinbad the Sailor is but an Arabian Odysseus, and the Sleeping Beauty of Grimm's is another Brunhilde. The fable has perhaps an additional moral value in that it gives a view of worldliness which may serve to temper the extreme idealism of the fairy tale. In all these stories there is, besides, a convenient and often striking epitome of types of character or behavior. "Sour grapes" is a most useful addition to our vocabulary, as is "Dog in the manger," etc., etc. Sir Galahad personifies for us a group of ethical characteristics, while Cinderella's sisters and the Barber's brother, Alnaschar, furnish type lessons, as it were, in envy and avarice respectively.

Poetry.—It is a sad but true commentary on our education that comparatively few adults read and enjoy poetry. It would not be fair to lay the entire blame for this upon the school, although much of it belongs there. The poetry of a nation represents, as a rule, its highest literary achievement. The inner life of a people is crystalized in its songs. This is as

true today of poets like Swinburne and Noyes as it was in the pre-writing ages of the epics of the Greeks and the Finns.

As poetry is intended primarily for the ear, there should be little if any verse read silently in the first five years of school life. Considerable poetry should be read aloud by the teacher, particularly dialect poetry such as Riley's, which pupils enjoy hearing but not reading themselves. Some poems should be read by individual pupils in the classroom, and numerous short poetical selections should be memorized. The test of this memorization should be its oral recitation. Occasionally, though seldom, the selections should be written by the pupils. This is economy of time, if mere testing is the object, and also serves to emphasize the verse form.

One potent cause of the indifference to or dislike for poetry on the part of many persons is found in the use of poetical selections for grammatical analysis and parsing. This will be discussed at length in the chapter on Grammar. Here it may suffice to call attention to the pernicious practice of taking a long poem, using it as a medical student uses a cadaver, and then expecting the pupils to have an appreciation for its beauty. This is the way the author, as a school boy, made his first acquaintance with Scott's *Lady of the Lake*. To this day, I never think of the line

"The stag at eve had drunk his fill"

without a painful recollection of rewriting it, changing the voice of the verb: "His fill had been drunk

by the stag at eve''!! The teacher, probably without any definite aim or perhaps in consideration for the continuity of the story, took us through the book, page after page, as though Scott had planned a graded series of language lessons in his metrical tale. As I think of the process now, I can compare it to nothing more appropriate than running a lawn mower over a bed of beautiful flowers.

A teacher with a true appreciation of poetry will have but little trouble inspiring her pupils. Select your material carefully and decide in advance what you are going to read to them and what they shall read to you. If happiness is an end of education, no greater legacy can be given by the school than a love for good poetry. The teacher should never forget that poetry was and is written to be read not dissected. Of course, at times, obscurities of diction and construction must be cleared up by the teacher, and even metrical forms may need explanation, but these matters are all secondary and must never destroy the true aim of the work—literary appreciation.

Prose Fiction.—The novel and the short story represent the most popular forms of prose fiction today. They are both fairly recent developments in the history of literature. This makes selections in this field difficult. Survival through the ages as in the case of the Fairy Tale cannot be appealed to here as a criterion. Literary criticism, however, may compensate for the lack of historic perspective. The consensus of critics, for example, has fixed the novels of Fielding, Sterne, Scott, George Eliot, Dickens,

Thackeray as reliable literary standards. Many a child is old enough to have a novel read to him before he is able to appreciate it himself. The author read Mark Twain's *Prince and Pauper* to a class of fifth year pupils with much apparent pleasure to the children. Here and there a verbal commentary, explanation, or paraphrase was found necessary. As a result of the reading, considerable interest was aroused in the writings of Mark Twain and the library was besieged for *Huckleberry Finn*, *Tom Sawyer* and the rest. Moreover, the important point to remember is that not only were the pupils afforded innocent enjoyment, but a taste for good literature was developed. These children were being prepared for the duties of parenthood. Their children would probably not need the school inspiration for good reading, but would get it at home. It would be time well spent if at least one hour a week were devoted to the reading of good representative novels by the teachers to their classes. Many teachers have found the last hour of the school week to be a good time for such work.

In regard to very recent fiction, the safest plan is to await a reliable literary consensus. The six best sellers may safely wait until *Silas Marner*, *Ivanhoe*, *David Copperfield*, and *Vanity Fair* have been enjoyed. Without presuming to judge for posterity, it would seem as though the tremendous output of novels in our day, while bound to produce something of lasting value, will be in the main ephemeral. A desire to pander to a fleeting and oftentimes vicious public taste and to a shallow philosophy of life make much

of this stuff unavailable for reading material either in the home or the school.

The short story has had such a remarkable development in the last hundred years that it may now claim a separate place as a species of literary production. Monthly and weekly periodicals of all sorts furnish ever so many excellent short stories, many of which can be found suitable for school use. No child should go out from the elementary school without a fair acquaintance with the best American magazines and some knowledge of their characteristics. Of course there are many short-story writers who may be said to have become classic. Poe, Hawthorne, Kipling, and Stevenson have permanent niches in the literary Hall of Fame. Nor should this work be limited to English writers. Good translations from the French, German, Italian, etc., should also be read. It is certainly a narrow provincialism which would permit a boy to go out into the world in entire ignorance of Balzac, de Maupassant, Goethe, Cervantes, Ibsen, Boccaccio, and hosts of other non-English writers in the various fields of literature. It is a sad fallacy to demand the reading of these foreign writers in the original. Such an impossible standard of attainment means practically locking the doors to much of the world's best literature. We do not require that the Bible be read in Hebrew, then why must ablatives and indirect discourse bar the way to Ovid and Virgil?

The Newspaper.—The modern newspaper is the most widely read of all publications. It contains every variety of literary output, even to the serial novel. It

has become as necessary to home life as the tooth-brush and player piano. All will recall Whittier's lines of joy after a week's deprivation:

At last the floundering carrier bore
The village paper to our door.

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Welcome to us its week-old news,
Its corner for the rustic Muse,
Its monthly gauge of snow and rain,
Its record, mingling in a breath
The wedding bell and dirge of death;
Jest, anecdote, and love-lorn tale,
The latest culprit sent to jail;
Its hue and cry of stolen and lost,
Its vendue sales and goods at cost,
And traffic calling loud for gain.
We felt the stir of hall and street,
The pulse of life that round us beat;
The chill embargo of the snow
Was melted in the genial glow;
Wide swung again our ice-locked door,
And all the world was ours once more!

From the standpoint of the present chapter, we must inquire what use, if any, can be made of the newspaper as reading material in the school room. In subsequent chapters we shall consider other educational aspects of the newspaper, e. g., in connection with written language, history, civics, etc. It would seem to be a good plan for the pupils to have some acquaintance with all the newspapers of their city, just as we pointed out in connection with the maga-

zines. They should be led to have a natural abhorrence of the tawdry or sensational and a proper respect for sane and solid journalism. This would scarcely be possible below the higher grammar grades. In these grades, however, and even lower, instructive exercises in reading newspapers could be had, and some time each day might profitably be spent in reading current events. Work of this kind can be made as entertaining as instructive.

Other Material.—The author is not attempting in this chapter an exhaustive description or catalogue of all forms of reading material. Tales of adventure, travel, history, biography, and the drama should, however, be mentioned. Biography in particular has great inspirational value. In spite of much shallow criticism, I venture to recommend Franklin's *Autobiography* for all grammar school pupils. Among tales of adventure, *Gulliver's Travels*, *Robinson Crusoe*, and *Treasure Island* simply must be read. So must the Homeric Epics and *Don Quixote*. Although drama is usually postponed until the latter part of secondary education, I think some dramatic works could profitably be read to the children of the elementary school. Shakespeare in particular will be found to make a wonderful appeal to 7th and 8th year pupils. Dramatic literature has enjoyed a renaissance in the last fifty years and it behooves the live teacher to keep abreast of the spirit of the times. Maeterlinck's *Blue Bird* would be enjoyed by pupils as early as the third school year. Moreover, it should be remembered that the dramatic instinct is strong in children.

Any account of literary material would be notoriously incomplete if it failed to mention that book of books—the Bible. Considered merely as a human production, we have in the Bible a veritable storehouse of all descriptions of literary art. The narrowness and jealousies of religious sects have retarded the educational use of this material, although it is now gaining foothold in various college courses. Let us hope that the time will come when this rich material can be read and reverently read as literature. The eternal truths of religion would be in no sense endangered by this outcome.

The Course in Literature.—The foregoing discussion of the material of reading has plainly indicated that the term Literature for this part of the work would be appropriate and unambiguous. This is what it really is, and the inclusion of it under reading is misleading. In many places, however, the designation literature is limited to the high school. An additional advantage of using the word would be to emphasize the fact that what children read is of the utmost importance, a fact now frequently overlooked. This is largely due, as will be shown in the next chapter, to the confusion between reading and oral expression.

Some simple work in the history of literature might be advantageously taken up in the elementary school, but it should always be subordinated to the essential aim, viz., literary enjoyment and appreciation. There is no doubt that it adds considerably to the interest of one's reading of, say, *The Living Temple* to know

that Holmes had studied and practiced medicine. Again interesting events of George Eliot's life vivify the story of *The Mill on the Floss*. The historic background of literature is also frequently illuminating if presented in a proper and unpedantic way. Reade's *It is Never too Late to Mend* or Hood's *Song of the Shirt* are made more interesting and profitable by some such explanations. Some biographical data are contained in many of the excellent collections of prose and poetry known as Reading Books. These data are too frequently, however, mere dates and uninteresting, unrelated facts which throw no light on the literature as such.

CHAPTER V

ORAL EXPRESSION

What it Means.—The term Oral Expression is open to the same criticism which applies to so many pedagogical designations. It is both vague as the title of a definite curricular subject and includes ever so many phases of the teaching process. Every word that the pupil utters from an informal “Thank you, Ma’am” to a prolonged deliverance on “Arbitration” is included under Oral Expression, just as Reading runs the gamut from the study of a geography lesson to detailed work involving literary appreciation. In the main, and so far as possible, I shall restrict the designation to every form of utterance on the part of the pupil where he consciously considers **how** he is expressing himself as well as **what** he is saying.

A Distinction.—The line of demarcation between Oral Expression and ordinary class room work or recitation is exceedingly fine and difficult of determination. Yet for practical purposes the line should frequently be drawn. We sometimes hear it said that every recitation should be at the same time a lesson in language. This is one of those extreme statements which are the bane of theoretic pedagogy. In one sense it is true, but the determination of the question

is in the last analysis a matter of emphasis. If the purpose of a teacher's question is merely to test geographic knowledge, the answer to "What is the capital of England?" may very well be simply: "London." This is all that is necessary from the standpoint of geographic emphasis. If the purpose of the question is to give the pupil practice at the same time in complete sentence construction, the teacher should demand something like: "The capital of England is London." This is a better answer from the standpoint of language emphasis. At times, perhaps frequently, the two ends may be secured. It is, however, a mistake to distract the pupils' attention from the main issue. Moreover, colloquial or conversational language does not habitually use the complete statement, and a universal insistence on the latter is not only distracting, but may easily give rise to a stilted and unnatural form of speech. "On the shelf" is an adequate and thoroughly idiomatic response to the question: "Where is the book?" Of course, incorrectness of speech must not be tolerated. "Because I seen them" is an absolutely unallowable answer to "How do you know there are snow crystals?" Even here, however, the correction should be made with the least possible interruption of the main issue. It would probably be an inappropriate time for a dissertation on the distinction between the participle and preterit. The prevalent errors of speech in the classroom form valuable material for subsequent corrective work in pronunciation, grammar, and rhetoric.

The Value of Oral Expression.—As a specific subject

of the curriculum, too much stress can scarcely be laid upon oral expression. We all talk ever so much more than we write. Self confidence and readiness in speech are a valuable asset for any man or woman. The ability to read aloud clearly and entertainingly is a possession whose happiness value can scarcely be over-estimated. Many of the asperities and dissonances of life would be eliminated if we could all say what we mean unambiguously, forcefully, and pleasantly. In the opinion of the author, one solution of the omnipresent servant problem would be found in a careful course in Oral Expression for mistresses. Ambiguous orders, interpreted by an uneducated judgment, with the resultant scolding are responsible for many a "week's notice." Socially, the good conversationalist and raconteur has tremendous advantage over the diffident or awkward talker. Besides all this, formal training in addressing groups of persons is of great value in connection with our present social arrangements. Most educated men and women belong to clubs or societies—political, religious, athletic, social—membership in which brings with it the necessity or desirability of standing on one's feet and having one's say. Whether it be a felicitous speech of compliment at a wedding feast or a political harangue on the floor of Congress, how one talks is frequently as important as what one says. The public schools have been derelict in this matter of oral expression, but there is now evident a growing appreciation of its value. It has already won a place as a separate subject in the curricula of many school systems.

Oral Expression and Primary Reading.—In the last chapter, the emphasis in the teaching of reading was laid on the necessity of getting the thought. It was insisted that a distinction should be made between thought getting and thought expressing. The three-fold character of Reading as the term is often vaguely used may profitably be repeated: (a) getting the author's thought (accomplished usually by silent reading and study), (b) what thoughts we are getting (the material of reading—better called Literature) and (c) expressing the author's thought (reading aloud, one phase of oral expression).

In the very beginning of his work, the child must read aloud, so that here reading and oral expression merge into one. The purpose, however, is test. It is necessitated by the mastery of the mechanics of the reading operation. Moreover, since, as we saw, the association between the visual symbol and the spoken word is the important consideration, the latter must be largely in evidence in the early part of the work. This necessity of oral reading in the very beginning of the course has been responsible for one of the silliest and most wasteful processes of the class room. It has tended to the continuation of the practice even after the mechanics of the reading operation was thoroughly mastered, and has resulted in a fatal vagueness of aim. The so-called reading lesson in the higher grades of many schools is nothing more than a farce. There is a tacit recognition of this fact in the arrangement of the program bringing the reading lesson at the end of the afternoon, when

teacher and pupils are half asleep anyway. All the children, bright and dull, have copies of the same book, one reads aloud and the others are supposed to follow. Some commentary and explanations of words by the teacher now and then rouse the listless listeners (the reader's attention is called to the fact that "listless" may be taken as a pun) to some attitude akin to attention. This description may seem exaggerated and the writer hopes that it is. It shall stay as written, however, because painful reminiscences of many dull school hours of my own experience are still lively in my recollection and I know well that despite advances in the science of pedagogy, there is no stronger hold on teachers than tradition. Thousands of teachers today are conducting their classes just as they themselves were taught as children.

Reading Aloud as a Phase of Oral Expression.—Considered strictly as a part of Oral Expression, reading aloud attains considerable importance. Oral reading must always presuppose that the thoughts to be read are already thoroughly understood by the pupil. Silent reading, study, and needed explanations must precede the attempt to read aloud. The other members of the class form the audience, and the point of view must be that the pupil doing the reading is obligated to make them understand and appreciate what he reads. They should not look at their books while the reading is in progress, but their books should be either closed or face downward on their desks. They should look at the reader, who should, as a rule, stand at the front of the room facing his au-

dience. His position should be natural and easy, the weight of his body preferably on one foot at a time. He should stand erect and in a hygienic attitude; his left hand holding the book and his right hanging at his side—not in his pocket. These points should be insisted upon in the beginning of the work, so that they may become practically second nature. Affectation should not be tolerated, but we must remember that for some people even a bath is affectation. So rather a forced or stilted attitude than one that is stoop-shouldered and slouchy.

Imagination in Reading.—It is often said that reading trains the imagination. How we shall interpret this statement can be guessed from our treatment of Formal Discipline in the first chapter of this book. Reading does train the imagination, particularly reading aloud, if we understand by this that it affords brilliant opportunities for the creation of an ideal of imagery. The necessary relation between imagination and comprehension is an integral part of the process of teaching reading. In the preliminary work or stage of preparation, the teacher should insist on the pupils forming an image, a picture. She may assist frequently by vivid description or objectively by showing the actual things with which the passage deals or by blackboard illustration. Some may object that this is perceptive rather than imaginative work, but we must not forget that imagery is intensified by such objective helps if they are not carried to an extreme. Searching questions must follow this preparatory work, so as to be sure that the entire class or section

actually has the required images. This should constitute the principal step of preparation for oral reading.

Conveying the Imagery to the Audience.—Practically the only excuse for oral reading when its use as a test of thought getting is no longer necessary, is to express the author's words so that others may get the thought. Other elements of oral reading will be discussed later. Here we will restrict ourselves to the one consideration: How must the pupil read aloud so that the audience can readily and with a **minimum of effort** get the ideas of the author? First, we will repeat, the reader must clearly image the ideas himself. Then he must ask "How shall I give these to my listeners?" He should be made to comprehend the fundamental principle of all reading or, in fact, every expressive art, that some elements are important, salient, while others are secondary or subordinate. Many words of the passage form a mere setting for the prominent ideas. Indeed it is possible to omit many words from an ordinary paragraph and still leave the meaning fairly intact. The decision as to which are and which are not the prominent ideas forms an interesting and valuable part of the reading lesson. An illustration will make this clearer: Take, for example, the first lines of Longfellow's *Skeleton in Armor*:

Speak, speak, thou fearful guest,
Who with thy hollow breast
Still in rude armor drest
Comest to daunt me!
Wrapped not in Eastern balms,

But with thy fleshless palms
Stretched as if asking alms,
Why dost thou haunt me?

Then from those cavernous eyes
Pale flashes seemed to rise—etc.

The teacher's preparation for the reading of this poem would include certainly an account of the events—the finding of the armored skeleton—which the poet himself explains in a note. Some interesting recital of the exploits of the Norsemen and of their manners and customs would also be illuminating and there would be afforded a splendid opportunity for correlation with the history of American discoveries. The reference to "Eastern balms" would probably have to be explained by the teacher as would some other words and phrases of the poem.

The question now arises in considering the oral reading of the lines above quoted: What is the important picture which the audience must have placed before their mental vision? Evidently the rather odd and decidedly gruesome image of an unearthed armored skeleton. With this aim clearly in mind, what are the most important elements? Obviously "hollow breast," "fleshless palms," "cavernous eyes." These expressions, more than any other parts of the quotation, are salient factors in the mental image of the skeleton. "Rude armor drest" is also important, but "wrapped not in Eastern balms" is decidedly secondary and, if given undue prominence, may even become distracting. The vitally important emotional side of the imagery

will be considered immediately after we have outlined the best way of giving the prominent factors prominence in our reading.

Emphasis.—The important words or phrases, once selected, should be so uttered that they will naturally make a vivid impression on the minds of the audience. This is generally expressed by saying that they must be emphasized. There are innumerable ways of emphasizing. Anything that attracts attention to a word constitutes emphasis. If the reader had a gong concealed on his person and would ring it at every important word, it would tend to produce emphasis albeit with a measure of distraction. Some readers emphasize important points by facial contortions or grimaces. Roosevelt uses this method and, it must be admitted, rather effectively. It would scarcely do for the school room however. The most usual way to emphasize a word is to utter it more loudly than its fellows. Such added force will naturally attract the listeners' attention. But so would any pronounced difference in utterance. In fact, saying one word very softly, almost whispering, may produce the same effect. Similarly, gestures may give emphasis as well as interpretation to a passage. Non-vocal methods are perhaps more appropriate to speaking than to reading and they will be considered later in that connection.

What is probably the most effective way of emphasizing remains to be considered, viz., the pause. It is the author's opinion, based on considerable observation, that the intelligent use of the pause is the prin-

cipal distinguishing mark of the good reader. The ordinary untrained grammar school pupil pauses only when he is out of breath. Psychologically the pause gives to the word which follows it all the vividness resulting from a state of expectant attention. The longer the pause—within reason, of course—the stronger the emphasis. This emphasis may be further intensified by a change of tone—loudness, softness, pitch, timbre—on the important word. The pause alone, is, however, usually ample. Care must be taken that the pupil does not drop his voice on the word preceding the pause, as an unnatural, staccato effect is thereby produced, which will be apt to defeat the end in view. The pause, as a means of emphasis, has the additional advantage that it may serve to bring out not only single words but entire clauses and sentences. It should be insisted on from the beginning of expressive oral reading, so that its constant conscious use may become second nature to the pupil. Let any one take the poetical lines cited above and make pauses before the phrases selected as important, and he cannot fail to notice the heightening of the effect and the clarifying of the picture. I shall never forget the rendition of Antony's famous funeral address by the veteran actor John Lane. I, a youth of seventeen, was a supernumerary in the Roman mob whose feelings were being wrought upon. Particularly impressive were the lines:

The evil that men do lives after them,
The good is oft interred with their bones.

The pauses before the words "evil" and "good" respectively were fully six seconds in duration. In both cases "the" was pronounced with the long *e*.

A pause **after** an emphatic word or phrase is also helpful, as it tends to set it off clearly and distinctly. In fact, the pause is Janus headed, looking both ways. Not only does it focalize what follows it, but gives time for retrospective comprehension of what has preceded it. The constant admonition "too fast, too fast!" will be remedied more effectually by the conscious use of the pause than by any other way I know of. Let the pupil ever have before his mind the thought that he is painting mental pictures for his audience—an audience with their eyes on him, not on the text—and he will appreciate the necessity of slow, deliberate reading. More than this, as he learns to put himself in the place of the audience, and recollects some of his own dreary, bored experiences as listener, he will recognize the ethical obligation imposed upon him to distinguish between the vital and the unessential by intelligent emphasis.

Expression.—Emphasis is a large factor in what we call expressive reading, but it is not the only factor. Just as the musician interpreting a composition must regard other marks than piano, forte, and the pause, so the oral reader's imagination supplies him with *mæstoso's* *dolce's*, *cantabile's*, etc. The mental picture contains more than mere perceptive elements. It has an emotional side as well. Frequently, a vivid imagination will unconsciously give to the reader's tone the requisite emotional suggestiveness. Whether

justly or not, teachers usually attribute lack of expression to a lack of imagery. Generally speaking, this is true. According to the testimony of some actors, however, vivid imagination and strong feeling do not always conduce to deeper emotional effect upon an audience. And the reverse proposition has also been maintained. It is not, of course, the purpose of the school to develop a race of actors or dramatic elocutionists. Still the teacher of oral expression can learn much from that great educational institution—the stage.

Referring again to the poetical quotation above, the pupils should realize that the mental picture of the skeleton is not an ordinary sight, nor the state of mind which would lead one to ask it to "Speak! Speak!" an every day experience. Lead them to see that the predominant emotion is horror. Get them to infuse some horror into their reading and if they succeed but poorly, do it for them. So with the various emotions which are of frequent occurrence in reading, such as love, surprise, hate, fear, envy, etc., etc. Expressive reading, therefore, contains two factors—first, the clear mental image, the intellectual factor, and second, conveying the appropriate feeling, the emotional factor.

Enunciation.—I have discussed emphasis and expression before clearness of utterance because they have the priority in importance even if not in time. **Make** your audience understand, **force** their attention are the watch words of all oral expression. This may seem to conflict with the natural conversational tone

set up as an aim in many courses in reading. To a certain extent it does. So long as thought getting by the reader was regarded as the main purpose of oral reading, the conversational manner was sufficient. But when the aim is shifted from thought getting to thought giving and the audience is enlarged from one to fifty or a hundred, the easy, conversational tone is not sufficiently convincing or interpretative. The apparently easy, natural conversational tone is one of the last things learned in oral expression, and is indicative of consummate art. *Ars est artem celare*. This applies with especial force to oral reading. The effect must be produced, but the effort should be inconspicuous or absent. Effective suggestive reading is a talent possessed by few.

These considerations bring us to the important topic of clearness or enunciation. From the beginning, careless or slipshod enunciation must be guarded against. In reading to or addressing an audience of forty or more, there is demanded a clearness of utterance which would sound stilted or affected in ordinary conversation. The individual members of the audience are at various angles and distances from the reader, and there is not the same rapt attention characteristic of a tête à tête. Again, the larger the audience, the greater the difficulty of appealing to the individual interests. So, make sure that the vocalization is sufficiently loud and accurate. It is not a bad plan for the teacher to sit in the back of the room, so that the pupil may acquire the habit of throwing his voice to the most distant point. This also prevents

the nervous shifting of attitude caused by the teacher at her desk in the front of the room. No member of the audience, and the teacher is not the least important member, should be back of the speaker or reader.

Specific exercises may be as helpful to clear enunciation as are movement drills to penmanship. Class practice in carelessly uttered words like ghosts, kept, library, etc., serve to focalize attention on the necessity of giving the various vowels and consonants their full value. Some of these exercises may occasionally take the form of concert recitation. This should be regarded as an interesting variant to be used seldom and cautiously. Individual recitations are safer and more effective. Five minutes a day spent in such enunciation drills will be found to produce excellent results.

A word of caution is perhaps necessary in regard to this insistence on clear enunciation. There arises a real danger of affectation and stiltedness which may produce a result too far removed from the utterances of ordinary conversation. In the author's experience, however, he does not recall many days or nights of worry on account of his pupils enunciating too clearly. Oral expression to an audience is **not** ordinary conversation, and a grammar school pupil can readily be made to grasp the distinction. The trouble with much of the insufferable reading and declamation which holds back the hands of the clock at an otherwise enjoyable social function, is due to the failure to recognize the distinction between stressed and unstressed words. If due consideration is given to the princi-

ples of emphasis discussed above, the unimportant parts of a passage will naturally lack the incisiveness of enunciation which belongs to the emphatic expressions. Ordinary elocution drill often gives too much attention to the letter and too little to the spirit of the law.

Pronunciation.—Enunciation and pronunciation are closely related. Carelessness in the former often leads to error in the latter. “Kep” for “kept” and “library” for “library,” “vilet” for “violet” are a few illustrations. Enunciation is a matter of care, pronunciation a matter of knowledge. This distinction leads us to the very difficult consideration of what we mean by correct pronunciation.

As Sweet points out in his *Primer of Phonetics*, it seems foolish to argue as to how we **should** pronounce before we have scientifically ascertained how we **do** pronounce. From a philosophical standpoint, this statement is undoubtedly true. The practical teacher, however, cannot await the resolution of the abstruse problems of phonetics any more than the ordinary mortal can stop breathing until physiologists shall determine the exact nature of the mechanism of neuro-muscular control. Sweet’s statement has, however, an important bearing on spoken language, especially as it directs attention to the fact that the same language is pronounced in different ways in different localities and even in the same locality, and even by the same individual at different times. There were many local differences of pronunciation long before written language was invented or in general use.

Many of these differences have been handed down by tradition and thus perpetuated. Moreover, new differences are constantly arising, some explainable by phonetic laws, some undoubtedly due to changes of fashion, and some absolutely inexplicable. However caused, these differences do exist and the teacher of oral expression must recognize them. She should, though this is no easy matter, be able to distinguish between mere transient fads and permanent changes. Pope's lines are applicable:

Be not the first by whom the new is tried
Nor yet the last to lay the old aside.

In fact, the teacher of oral expression will be forced to assume a conservative attitude toward pronunciation. The main difficulty is not with words like *peremptory* or *sacrilegious*, words rarely used by elementary school pupils, but with that host of familiar words like *on*, *past*, *taunt* which are of every day occurrence. Here she must, it seems to the author, remember the adage that "When in Rome, do as the Romans do." She must studiously observe and familiarize herself with those forms of pronunciation used by the intelligent, cultured members of that community where she resides. It would be the silliest waste of time conceivable in Philadelphia, e. g., to insist on the pupils using the broad or Italian *a* in words like *class*, *past*, etc. A negative attitude toward vulgar or low pronunciations is perhaps the most effectual course. She should, however, by constant example, emphasize what she considers the proper

pronunciation. The long *u* of words like *duty*, the short *o* of *on*, *song*, etc., and the short *a* of *man*, *stamp*, etc., should be taught positively and insisted upon at all times.¹

The habit of referring to the dictionary for the pronunciation of doubtful or unfamiliar words will be found most beneficial. A dictionary should be at each pupil's desk during the oral reading lesson. In this way, a pronunciation conscience can be created. Since the purpose of all oral expression is to render the understanding of what is said as easy as possible, it is obvious that any pronunciations which distract the listener's attention from the thought are to be studiously avoided. This does not mean, however, the sacrifice of accuracy, but rather the use of common, usual pronunciations when several different forms are authorized. The intelligent use of a dictionary, presupposes, of course, a working knowledge of the various diacritical marks. This knowledge may commence in the fifth school year. No pupil should quit the elementary school without being able to ascertain the pronunciation of a word through the aid of some standard dictionary. The author has met many high school graduates who are deficient or altogether lacking in this ability. In English, accentuation presents considerable difficulty. Foreigners find this aspect of our language particularly troublesome. Pupils should be drilled in pronouncing words according to their accentuation. Secondary, as well as

¹ The author, in citing these illustrations, being a Philadelphian, is doing as the Romans do.

primary accent, must be taught. It will be found an interesting exercise to have pupils pronounce words accenting each syllable in turn. E. g., after the pupils have determined the primary accent of the word "revolution," let them pronounce it accenting the first syllable, then the second, and the last. The oddness of the resulting words will intensify the correct pronunciation and emphasize the importance of correct accentuation.

Foreign Words—German, French, Latin particularly—sometimes occur in English works. The teacher should prepare for these in advance and give her pupils as nearly an accurate pronunciation as she can. The conversational value of ability to pronounce these languages is greater than it first appears. I have known of cases where the social prestige of an individual was almost destroyed by inaccurate pronunciation of words as frequently used as *ennui*, *tête à tête*, and *auf wiedersehen*.

Declamation.—I employ this old fashioned word as a fitting designation for the recitation of memorized selections of prose or poetry. All that has been said about oral reading applies with equal force to declamation. As a rule, an audience expects more from a declaimer as the mere fact of memorization implies some degree of studious consideration. Again, the declaimer is able to face his audience all the time. The absence of the distracting printed page should make it easier to hold their attention.

The teacher's manner is very important in this work, as it is in all forms of artistic expression.

Ridicule and sarcasm—dangerous weapons at all times—are absolutely out of place here. A certain degree of timidity, made increasingly evident by the boy's swaggering bravado, is natural to adolescence. Riveting the attention of the class upon the specific aims of expression and enunciation produces a wholesome atmosphere for the work. As a rule, the passage selected for declamation should be short and **worthy of memorization**. Good opportunities are offered here for correlation with history and other school subjects, as well as with literature.

The problem of bodily attitude in all forms of oral expression except reading is further complicated by an additional hand. Self-consciousness and timidity exhibit their most persistent symptoms in the lack of control of the extremities. Certain books on elocution prescribe exact regulations for the position of the entire body. It would be helpful for the pupil to know some of the best of these regulations. Insistence upon them, however, may easily prove fatal to ease and naturalness. Healthful position of the body should be demanded at all times. Grace is an after consideration but an important one. Praise the pupil for the good points of his bodily position, thus giving them emphasis for the entire class. Positively prohibit slouchiness, hands in pockets, projecting abdomen, straddled feet, etc. Make the pupils understand that an important factor in securing attention consists in the speaker's attitude. If he himself is not interested in what he is saying, how can he reasonably expect to arouse interest in his audience? Attacking

the problem in this way, the teacher can work up to good bodily attitudes without the otherwise grave danger of crushing out spontaneity. The pupil standing before his classmates in declamation is also apt to regard himself as an occasional cynosure for this limited but critical public. Tactfully managed, this opportunity may be turned to good account in creating habits of cleanliness and neatness of dress. When the pupil has finished his recitation, **but not before**, the teacher should lead the class in a good natured but strictly critical discussion of its good points and defects. The declaimer himself should be given the first opportunity in the discussion to correct his faults.

Gesture.—As was pointed out above, in discussing emphasis, movements of the hands or in fact of any part of the body, or of the entire body, are justified when they are necessary to explain or emphasize some word or expression. Pointing up while saying the word “above” accentuates the aboveness. Raising the eyebrows for the word “supercilious” and curling the lip for “scornful,” illustrate what I mean. Here again the reader or reciter whose imagery is clear and vivid is apt to make some partially appropriate gesture. Here, as with expressive emotional reading, there is much to be taught, or better, inspiringly shown by the teacher. It is safe to lay down as a rule for most beginners: The fewer arm movements, the better. Stilted, affected results must be guarded against. Just as a musician injects his personality into his rendition of a symphony, so should the reader or declaimer in his interpretation of a literary passage.

We should expect more facial mobility and gesticulation from an Italian or Frenchman than from an Englishman or American. Their absence in the former would be as conspicuous an affectation as would be their excessive use by the latter. A rather negative attitude toward gesture in the form of large bodily movements is perhaps safest in the elementary school at least. Encourage such gestures as seem to spring from the personality of the reciter but do not insist on them in any case.

Public Speaking.—This is a rather high sounding title for the kind of work which can be attempted in the elementary school. It will seem a more reasonable designation if I define “public” to mean any group of listeners from ten interested kindergarten tots to an assembly of a thousand grammar school pupils. Public speaking becomes a form of declamation when the speaker memorizes his story, talk, or speech before delivering it. Some work of this character may profitably be attempted in the grammar school, most usefully perhaps in connection with written language, which will be considered in a later chapter. Here I restrict public speaking, for convenience of treatment, to the recital of topics—literary or scientific—of which the pupil has sufficient knowledge, but whose verbal formulation he first attempts in oral form. Grammar and rhetoric of a simple character find a rich concrete application here in addition to the purely oral aspect of the exercise. In oral reading and declamation, grammar and rhetoric are presupposed possessions of the author—not so with public speaking. The first

grade pupil's "It was him" in the course of his recital of some narrative or personal experience must be rigidly changed to "It was he." Similarly, with more mature pupils, the rhetorical principles of emphasis, unity, and coherence must be strictly insisted upon. In fact, concrete training in grammar and rhetoric forms an exceedingly important value of public speaking. Class criticism and discussion of such errors as they occur is far better training than the usual method of individual corrections of written themes. And this is the appropriate place for such corrections, and for insistence on the complete statement. Here it is not interruptive, as it might be in the arithmetic or geography lesson, but is in fact the very point of the exercise.

The fundamental principles of description, narration, and exposition are also best taught in connection with these oral exercises. It is helpful sometimes to furnish the class with a bare outline of some narrative, then after giving them some time for thoughtful preparation, call upon as many individual pupils as possible to recite. With older pupils, topics related to the curricular subjects may be assigned for home or library preparation. Sketches of the important facts may be written and the oral exercise conducted during a regular school period. Valuable methods of using periodicals, newspapers, and reference works can be developed, which will be interesting as well as educative in a broad sense. A good school library is invaluable in connection with this work.

Vocabulary Building.—Word study has as impor-

tant a bearing upon oral as upon written language. The course in public speaking will tend to enlarge the pupil's vocabulary. The important relation between language and conception has been briefly hinted at in the chapter on Psychology. Every new word learned means so much additional mental organization. The child who can say "charity" instead of some circumlocution like "helping the poor and needy" can not only express himself more felicitously, but has also acquired the power of thinking more economically. When I substituted the word "chalk" for my two year old daughter's "the white stuff that you write with," I gave her a new mental tool. In a sense, I accomplished for her mental organization what Eli Whitney did for the production of cotton. New words really comprehended and made our own are like so much labor saving machinery. At the close of a pupil's recitation the teacher will frequently be able to suggest some shorter more felicitous way of expressing a certain thought. She may supply a word of which the pupil already has recognition knowledge, or she may deem it advisable to make an absolutely new addition to the vocabulary of the class.

The author has found it an interesting and helpful plan in his oral expression work to classify words into three groups—old friends, acquaintances, and strangers. By old friends he indicates that large group of everyday words like "house," "go," "water," etc., of which all the pupils have both recognition and working knowledge. By acquaintances he means those words of which the pupils have only

recognition knowledge, i. e., words which they easily understand when they hear or read them, but which they seldom or never use. Pupils will often find it extremely difficult to draw the line between old friends and acquaintances, but the attempt to do so is excellent language training. It makes them conscious of the limitations of their own working vocabularies, and leads them to a better and more exact use of words. It will be found quite interesting to have a class take a page or two of some literary work, and arrange the words in three columns, viz., old friends, acquaintances, and doubtful.

The strangers will be found more difficult to handle. In language, as in life, it is easier to convert acquaintances into friends than to perform the same office with strangers. As was stated in a previous chapter, in the early grades, most if not all new words should be used at first orally. Subsequently writing the new words helps to focalize the attention. Using the word in varying contexts is the method psychology plainly indicates for the formation of the concept. Many of the technical terms of geography, arithmetic, grammar, etc., are used so frequently that they soon gain familiarity. This is not the case, however, with numerous words of literature. Here it inevitably occurs that frequently the first contact with the new word will be visual, not auditory. Some explanation will be found necessary by the teacher, and she cannot always depend upon frequency or repetition to make the word an acquaintance, far less an old friend. Mental organization of the new word and vividness

of impression are therefore absolutely essential. An exceedingly valuable form of such mental organization is often provided by an etymological consideration of the word. This will also be of assistance in its spelling as we shall see in the next chapter.

The author has found it helpful in his work with high school classes to require the pupils to record in a special notebook, kept solely for the purpose, all new words which occurred in their reading or study, together with their meanings and the date on which they were met. Periodical examination of these notebooks and quizzes on the meanings of the words constituted the very necessary follow-up work. The requirement of the date was a whim of the author, who thought that it would add interest to the work, making the books, as it were, a kind of mental diary or journal of the pupil's intellectual development, a journal whose perusal might be interesting in future years. Such a plan might be used with good results in the higher grammar grades.

CHAPTER VI

SPELLING

Its Value.—So far as conventional value is concerned, a knowledge of spelling is not so important as the ability to pronounce correctly and speak grammatically. This statement may seem strange to the old time school masters, but a little reflection will show it to be true. In the first place we speak so much more than we write, that the quantitative argument becomes overwhelming. Again, we must recognize the fact that there are constitutionally poor spellers, whose culture and general intelligence are of the highest grade. They either hire clerks or amanuenses to write at their dictation or else have somebody, part of whose stock in trade is ability to spell, rewrite their manuscripts. In speaking, however, whether formally or informally, errors in grammar and pronunciation are interpreted, and often justly, as indications of lack of education and culture. On the other hand there are not the same local variations in written as in spoken language. The differences between England and America are so slight as to be negligible. In consequence of this universal standard, there is no loophole of excuse for bad spelling. We cannot extenuate by saying "Oh well, he's from Vir-

ginia or from Maine.” And there are many who must know how to spell in connection with their future vocations. For these, spelling has an especial utilitarian value, while for all of us its value is largely conventional.

Difficulties of English Spelling.—Were English a phonetic language, as German practically is, the teaching of spelling would present no special difficulty. There would be a limited number of letters or letter combinations always representing the same sound, and mistakes would occur only as the result of absolute carelessness. The amount of time necessarily spent in the teaching of English spelling handicaps us greatly in educational competition with nations blessed with simpler or more nearly phonetic languages. The time we must spend on spelling can be devoted in German schools, for instance, to various really useful acquisitions. I believe that Germany’s preeminence in education is largely due to the phonetic character of the German language.

To any casual student of history, the reason for the horrible condition of modern English spelling is plain. Starting as a comparatively pure dialect of West Teutonic—Anglo Saxon—it was beaten down, and then stirred into a hybrid broth by the invasion of the Norman French. There were, besides, other less important influences. This is not the place to dwell optimistically on the grand results of this mixture in creating the richest and most flexible of modern languages. So far as spelling is concerned, the standpoint is necessarily pessimistic. Modern English

spelling may be defined as the attempt to indicate by the French values of Chaucerian letters the current pronunciations of that distant age. While pronunciations have changed tremendously—in Chaucer's time, there was not a single silent letter in the word *knight*—spelling has remained practically the same. Various attempts at reformed spelling have been made and the author wishes them God speed. They must of course be conservative and gradual, so that English spelling will doubtless be a difficult, time-consuming branch of the curriculum for years to come.

A Distinction.—We may, for convenience of treatment, divide English words or syllables into two classes, which for want of better names I shall call rational and arbitrary. I consider those words or parts of words rational whose spelling can be judged from the usual phonetic value of the letter combinations. For example, the word *man* is a rational or phonetic English word; so is the syllable *ful* in its various combinations, so the word *humdrum*, etc., etc. There is probably not a word but has some rational element, even *phlegm* has its *l* and *e* and *m*. Word spelling will also be considered rational if the pupil can deduce it from its derivation.

The use of the word "arbitrary" for the second group of words is somewhat misleading, but I can think of no better designation. For instance, although a word like *hymn* belongs to the arbitrary group, there is of course a definite reason for its exact spelling. If the historic reason for the word is too far to seek, or too obscure, or unknown to the

teacher—few elementary teachers are or can be expected to be philologists—the word must be taught as a word, much as a Chinese symbol stands for its idea. In the sense that every existent thing has a definite though not always known cause for its existence, nothing is arbitrary. Whether to regard certain words as rational (in this broader historic sense) or arbitrary is often a nice point for the teacher to determine.

Rational Spelling.—As was indicated in the preceding paragraph, some words are entirely rational, while practically all words have rational elements. The only difficulty here is that there are so many arbitrary elements of words, that the child must remember which are rational as well as which are arbitrary. *Him, hymn, limb*, are a group of words illustrating a fairly prevalent condition. The arbitrarization—if I may coin the word—of *him* into *himb* would be as likely as the rationalization of *limb* into *lim*.

The early teaching of spelling in the lowest grades should be largely rational and inductive. Grouping of words containing the same phonetic elements assists the formation of permanent associations. For example, *light, might, fright, tight, etc.*, frequently seen together naturally lead to the generalization of the sound value of *ight*, so that when this sound is heard the letter forms i-g-h-t will be suggested to the child's mind. The same sound might also suggest the letters i-t-e. Two or even more than two associations or generalizations do not destroy the intrinsic value of the rational method of procedure. Left to himself, the child will unconsciously generalize, and it is cer-

tainly best that the teacher so arrange her instruction that those generalizations be made which will prove most helpful. The fact that a child may occasionally spell *kite*, *right*, is no argument against the efficacy of this method of teaching. While English spelling remains as it is today, any method which will prevent all mistakes will undoubtedly herald the approach of the millennium.

Just as the test of thought getting necessitated oral reading in the beginning of the work, so the well established read-write method implies that the child shall be able to write and hence to spell what he reads. Although this is true of the first part of the work, it should not be carried too far. There are many words which the young child should be able to read without necessarily being required to remember their spelling. For example, a first or second grade child in Philadelphia should be able to recognize such words as *Schuylkill*, *Delaware*, *Independence Hall*. They are probably too difficult to require that their spelling should be remembered by the very young pupils. When they occur in their little written exercises, it would be a good plan for the teacher to write these words plainly upon the blackboard, so that the pupils would simply have to copy them. The spelling of many absurdly difficult words is required of little tots to the just irritation of pupils and parents alike. Later, of course, the spelling of many of these local geographical and historical words must be known by the pupils, but then they will be older and better able to learn them.

Word Derivation.—In the previous chapter, I have indicated the importance of etymology as an associative peg for word meanings. It also is of great value in connection with spelling. A word is rationalized by any bit of knowledge which enables the pupil to reason out its spelling. Not only is mental organization secured but an otherwise dull subject can in this way be made delightfully interesting.

An acquaintance with the principal prefixes and suffixes will be found of great assistance. When, for instance, the prefix *dis* is shown as an integral part of disease, disappear, disappoint, etc., an interesting association is formed and a useful generalization is supplied. There is far less danger of a child thus taught misspelling *disappear* as *dissappear* than there would be had he no insight into the derivation of the word. So *business* seen in its suffix aspect as merely *ness* added to *busy* and grouped with *happy*, *happiness*, *clumsy*, *clumsiness*, etc., is far less apt to be forgotten. Historic associations are also valuable. The child who knows that the Philippines were named after King Philip will probably be relieved from his doubts as to whether the word has two *l*'s or two *p*'s. The history of the absurdly wrong spelling "rhyme," which nevertheless we use, will serve to impress the three words *rhyme*, *rime*, and *rhythm*. Such methods are, of course, only helps, not panaceas. There is no panacea for the ills attendant on our present system of English spelling. I make this remark because of the foolish propensity of some educational critics

to condemn a method absolutely because it will not cure everything and apply everywhere.

This method of enlivening and rationalizing the spelling lesson is so valuable, that the author ventures to assert that every teacher should become a philologist at least to the extent of thinking about and looking up a word derivation whenever possible.

Rules of Spelling.—Out of numerous attempts to bring order and system into our inchoate spelling, there have resulted some helpful generalizations. These are often referred to as rules of spelling. It is needless to say that these rules have by no means the validity or universality of application of the laws of physical science. It is, however, silly to argue that a rule is worthless simply because it has exceptions. Even were there as many exceptions as applications, the generalization would still be of use as grouping together for the mind a number of words of similar literal construction. Indeed the fact that a word is regarded as an exception to a rule intensifies its acquisition, giving an additional associative bond through the force of contrast. The rules of spelling should be taught not earlier perhaps than the sixth school year, by which time the pupil has a broad and solid basis for his inductions. And these rules should be, so far as possible, inductively attained through the pupils' self-activity, discreetly guided by the teacher.

The generalizations which the author has found most helpful are, as follows: changing the *y* into *ie* in the formation of plurals, as *lady*, *ladies*; changing

final *y* preceded by a consonant, into *i* on the addition of a suffix beginning with a consonant, as, *happy*, *happiness*; dropping final *e* on the addition of an initially vowel suffix, as, *dance*, *dancing*; retaining the *e* when the suffix begins with *a*, *o*, or *u*, as, *changeable*; using the diphthong *ie*, pronounced *ee*, after all letters but *c* when it becomes *ei*, as *friend*, *ceiling*; using the diphthong *ei* when pronounced *a*, as *weight*, *reign*; doubling the final single consonant of a monosyllabic or ultimately accented word upon taking a suffix beginning with a vowel, as, *hat*, *hatter*. The disfavor with which these rules are regarded in many quarters is probably due to the fact that they are badly taught, often too hurriedly, the pupils not being allowed to make their own generalizations. Properly taught, they are to be heartily recommended as an efficacious means of rationalizing English spelling. Many an intrinsically educative subject has been dropped from the curriculum because of faulty methods of instruction. Etymology has met this fate in many school systems.

After the generalizations have been properly made and thoroughly understood, a simple working of the rules could profitably be committed to memory. Some easy mnemonic devices are justifiable in fixing such a rule as that for *ei*, for instance, although this ceases to be a rational method in the limited sense in which I am employing the word rational.

Arbitrary Spelling.—It will be recalled that I use the designation arbitrary for words the reason for whose peculiarity of spelling is too far removed or otherwise unprofitable to seek. The *ai* of *Britain*, the *ei* of

neither are examples. With such words, reliance must be placed upon the laws of mental life governing association. What these laws are has been roughly outlined in the chapter on Psychology. Here it will suffice to refer to the importance of frequency of repetition and intensity—secured through interest—and the varieties of imagery which characterize different individuals.

From time immemorial teachers of spelling have relied upon drill, and so long as much of our spelling remains arbitrary, will thoroughness of drill be necessary. The recognition of this undoubted truth must not make us oblivious to the fact that mere repetition easily becomes a dull, monotonous grind. This may be minimized by varying the nature of the recitation, which will be discussed later.

Intensity of association through interest can be secured in various ways. Limiting the lesson to a very few difficult words is an excellent practice, but one that our tradition bound teaching uses far too seldom. Talking about the spelling of a word, relating it to similarly spelt words, contrasting it with others, dwelling on its difficulties or peculiarities, all tend to form some network of association, to substitute a degree of mental organization for a single slender connective thread. The play of humor may at times be invoked to good effect. Regarding certain puzzling words as class jokes and their misspelling as honestly laughable is an interesting variant which the author has often used successfully. In short, intensity of acquisition will be the normal outcome of good teach-

ing. In the past, the mere assigning of lists of words for study and their subsequent test and correction has often been the sum total of so-called teaching. Two essential facts of the teaching process, preparation and instruction, have too frequently been wholly neglected.

A considerable quantity of experimental investigation has proved beyond a doubt great individual differences in types of imagery. The motor, visual, and auditory seem to be, in the order named, the most prevalent forms. In the teaching of the arbitrary words particularly, this psychological fact assumes much importance. It is obvious that a pupil who habitually visualizes will remember the words better the oftener he *sees* them. He will also be able to test the correctness of the written word by looking at it. A pupil of the auditory type, on the other hand, will retain the spelling best by saying over frequently the letters forming the words. When he deliberates about a word, he will tend to image the letter names as sounds. The extent to which movements of articulation enter this process merges it into the motor type with which it is often associated. Movements of the hand and fingers in writing are the main factors of motor imagery. Such pupils will probably best retain the spelling of words by writing them. Their own test of correctness will consist in the felt appropriateness of the motor feelings in writing the words. Children are, as a rule, good visualizers. The wise teacher will, however, make an appeal to all three types of imagery. Her spelling class should become a kind of psycho-

logical laboratory. A conspicuous form of imagery in any pupil should receive specific treatment. Suggestions for methods of study could naturally follow such discoveries to the great benefit of the pupil. It might even be practicable to divide the spelling class into sections based upon typical differences in imagery.

In stating the fundamental law of association in Chapter II mention was made of the importance of the resultant pleasantness or unpleasantness. This factor assumes greater weight in all associations where intrinsic organization is difficult or impracticable. Arbitrary spelling is a case in point. There is a natural interest inherent in the detection of similarities, contrasts, and inductive generalizations. The formal, unreasoning memorization of a number of letters in a certain order is a far different matter. Commendation from the teacher, even little prizes for young children, emulation, wisely used, form justifiable means. An occasional spelling bee also adds interest either through the love of contrast, the desire to win, or curiosity to see who will be the victor. The inhibitive factor, punishment, is more difficult to handle. The writing of a word a large number of times is a method to be severely condemned. The argument against it is one which applies to the assignment of any additional school work as punishment, viz., that it engenders an attitude of disgust towards study and learning. The teacher practically says to the pupil: school work forms a good means of punishment as it is intrinsically disagreeable. Good natured ridicule

is sometimes an effective corrective method, but it must be used carefully as it easily degenerates into sarcasm, than which nothing is more reprehensible.

Syllabification.—The correct division of a word into syllables is a somewhat difficult part of spelling instruction. It is a necessary part, however, as the improper division of a word at the end of a line, though not rendering the word unintelligible, certainly detracts from the writer's reputation for intelligence or culture. The conventional value of syllabification is as great as that of spelling itself. A prominent cause of the difficulty is one that applies to other subjects as well, viz., ignorance on the part of the teacher. It is necessary to remember that pronunciation, not etymology, is the determining factor in word division. It would be obviously wrong, e. g., to end a line with *stag* as the first syllable of *staginess*. The reader has to make a mental readjustment when he comes to the beginning of the next line. In all cases where etymological division does not mislead as to sound, it should be the governing principle.

The proper syllabification of words is best accomplished by oral spelling. It is not necessary to utter the syllable after naming its letters, as was the old-fashioned way; a pause is sufficient. This pause should, however, be insisted upon. Since written spelling lessons have largely supplanted the old-style oral recitations, there has seemed to be a much greater ignorance in regard to word division. That this is at least a contributory cause seems to the author undoubtedlly true. In many words there may be dif-

ference of opinion as to proper division. The decision in such cases is generally immaterial so long as the pronunciation of the word is not affected. The printing or writing of words with hyphens or spaces between the syllables is not to be recommended. This practice tends to differentiate the word so spaced from the word as a unit. We should avoid all such obstacles or sidetracks to our association trains. They are sufficiently difficult without any distractions.

Oral Spelling—One undoubted advantage of oral spelling has been pointed out, viz., the emphasis it places upon syllabification. In addition to this, its employment of auditory or articulatory imagery gives it great advantage for minds of these types, and, though not all are predominately of these two types, none entirely lack these kinds of imagery. The larger the number of perceptive channels through which impressions are gained, the greater the likelihood of retention and recall. Besides these considerations and in addition to its advantage as an interesting variant, oral recitation of spelling has all the advantages of oral recitation in general. The entire class profits by the mistakes of each pupil. Errors are quickly detected and promptness of response becomes an important factor in testing thoroughness of knowledge. On the other hand, there must be considered the disadvantages of oral recitation, that it is frequently profligate of time, and each recitation, instead of involving class attention, too frequently degenerates into a teacher-pupil tête-à-tête. Oral spelling is undoubtedly an excellent occasional class method. Like many

another good method, it demands sagacity and alertness on the part of the teacher.

Written Spelling.—The writing of words for purposes of drill and test is certainly the best general method. Before writing was invented there was no such thing as spelling. The only justification for spelling teaching today is that it is a necessary pro-pædæutic for writing. Practice in writing words is therefore a most rational procedure. Moreover, as in other written exercises, all the pupils can work simultaneously and there is time economy. Every time a pupil writes a word correctly, there is an element of drill which serves to deepen the impression. Every time he writes a word incorrectly, the same associative law operates to perpetuate the error.

The utilitarian value of spelling consists in giving the pupil a knowledge of such words as he will have to use either in his school work or in after life. He should never be required to learn the spelling of a word of whose meaning he is in ignorance. The spelling drill should thus be correlated with the important work of vocabulary building. The teacher should as a rule dictate a word in a significant context, the pupil being required to write the word alone or the word and context. For example, the teacher, after the pupils have their papers in readiness, clearly pronounces the word *arteries*, then says: "The arteries carry blood away from the heart." If the emphasis is desired on the correlative aspect of the work, contexts or entire passages should be written from dictation, if the spelling of the word is the emphatic point, the

words to be spelt may be written singly in column form. Occasionally, but very seldom, should words be dictated minus their context.

We have seen in a previous chapter, that it is probably unwise to make of every oral exercise a lesson in formal oral expression. This is not true of written work. Faulty rhetoric may at times be ignored for fear of distraction from the main issue, but misspelt words in any written exercise are not to be tolerated. After the writing is accomplished the thought energy is also spent, so that the argument of interruption does not apply here. All written work becomes an integral part of spelling drill. In fact, the words incorrectly spelt in a letter or geography exercise assume greater importance than errors in the specific spelling lesson. They indicate that the pupil cannot use his knowledge in situations where that knowledge is absolutely demanded. Where term examinations in spelling are held, half, if not more, of the average should be computed on the written work in all the other subjects.

Correction of Errors.—In spite of the teacher's most assiduous endeavors, mistakes will occur. These errors, wisely handled, provide an excellent means of focalizing the correct forms. As Galton pointed out, an error clearly seen, recognized as an error, and contrasted with the correct form, furnishes a vivid associative bond. The papers should invariably—of course, nothing is absolutely invariable in methods—be marked by the teacher and rewritten correctly by the pupil. It is a good plan to have each pupil keep an individual

record of his misspelt words in a note book, or upon a folded leaflet in his spelling text-book. These individual lists could then be assigned for subsequent study and used as a basis for oral drill. "An ill-favored thing, sir, but mine own," says Touchstone of Audrey, and the same affectionate attitude may be created in the pupil toward his record of errors. Words which a large number of pupils spell incorrectly may be written upon a blackboard, and kept there as a constant visual reminder. The reinstruction necessitated by these errors will depend upon their nature.

Kinds of Spelling Errors.—Spelling errors may be divided into two great classes, viz., those due to ignorance and those due to carelessness. There are several subclasses under each of these headings. Thus ignorance may be due to imperfect teaching, or to inattention, or to peculiar difficulty of the word, or to that imperfectly understood mental kink which shows itself in spelling, e. g., *gril* for *girl* and similar transliterations. The careless errors may be due either to general habits of carelessness; or to haste when too much written work has been assigned for a given period, or when some more interesting aim, such as eating an orange, expedites the exercise; or to carelessness of pronunciation; or to the assimilative influence of a near word, as when a child who has just written *William Penn*, writes *pennmanship*. In his interesting monograph on Spelling, Dr. Cornman has attempted an elaborate classification of spelling errors, which,

together with the rest of the work, would repay careful study by teachers.

The above enumeration, though by no means scientific or exhaustive, is perhaps sufficient for my purpose. Let the teacher first recognize the fact that spelling errors spring from different causes, and hence require different remedies, and there will result marked improvement in this difficult subject. When a class frequently fails on the *s*'s and *p*'s of *disappoint*, its ignorance may be attributed to the fact that the teacher has ignored the prefix and word building method of rationalizing the word. The remedy is simple, once the cause of the error is appreciated. The word *conscience* furnishes another excellent example of a word whose acquisition is facilitated immensely by word-building. Again, the boy who is careless in everything may be expected to be careless in spelling as well. The pedagogical prescription in his case consists in creating an ideal of neatness and accuracy. Little improvement can be expected until this is accomplished.

The teaching of spelling has been regarded by some educators as practically impossible under present methods. Experimental and statistical studies by Rice and Cornman seem to indicate that much of the time spent in specific spelling instruction is wasted. It would seem to the author that the only valid conclusion from their researches would be that much present day spelling instruction is not instruction at all. There has been too much of the old Chinese

method in spelling. If the distinction insisted on in this chapter between rational and arbitrary words is thoroughly grasped, together with its method implications, and particularly if the character of the pupils' errors is studied and individual remedies applied, real instruction will supplant the traditional, routine drill.

As in all other subjects, some pupils will naturally make more rapid progress than others. These individual variations are perhaps more conspicuous in spelling than in any other study of the curriculum. Inability to spell seems to have a deep mental cause, although it is by no means an indication of lack of intelligence. Conversely, exceptional spelling ability often goes hand in hand with mathematical or other deficiency. The ability or inability to spell is frequently a hereditary trait. The lack of talent would show itself most conspicuously in the arbitrary part of the language, which should therefore receive especial attention. Unfortunately we cannot say, as with music or dancing, "The child has no aptitude for it, don't worry him, let him drop it." So great is the conventional value of spelling that much embarrassment is sure to ensue from any such laissez-faire course. The man or woman of today will be excused from singing or painting, but when he writes, he must spell correctly.

Text-books.—Nothing in education is absolutely good or bad, simply better or worse. So with text-books. Ever so much, too, depends on how they are used. A spelling book is good to the extent to which it sug-

gests good teaching methods. None of the principles discussed in this chapter can safely be ignored in a text-book which claims to be usable. Pedagogic grouping of rational words or syllables is demanded by thoughtful teaching, as is the constant association between the word and its meaning by means of contextual presages or otherwise. Word derivation is another essential of a modern text-book, which should be so full and complete that the teacher may make assignments for study, or rather for drill, in great variety. In fact, a practical spelling book should comprise an elementary etymological dictionary, with its words grouped on a psychological rather than an alphabetical or philological basis. No text-book will relieve the teacher of the necessity of live teaching. But it should relieve her of the evil practice of having the pupils write from dictation or otherwise lists of words for subsequent study. The sooner this practice is abandoned, the better.

CHAPTER VII

WRITTEN LANGUAGE

Value of Written Language.—The ability to write intelligently comes next in importance to the ability to talk and read. The man who makes a mark instead of a signature is rapidly disappearing from our midst. Despite the obvious utilitarian and conventional values of writing—I am not referring in this chapter to the mechanical art of penmanship—there has been frequently a failure to grasp its significance in the elementary school curriculum. Under the designation Composition, it has become one of the most poorly taught subjects. No better illustration could be given of the failure to realize the true aim of a study. For what are we preparing the average elementary school pupils? Surely there is no intention of making authors or poets of them. The school course in drawing may help in the production of a Raphael, and the music lesson may help to bring out a Mozart, but such exceptional results would scarcely justify the inclusion of these subjects in the curriculum. Similarly with written language. The divine afflatus may manifest itself in the school product, but genius will out anyway, and it would be silly to shape our course of instruction for such uncertain results.

The primary, utilitarian aim of instruction in written language is to enable the average pupil to compose correctly what he will likely be required to write in his future life. An important part of this instruction was discussed in the last chapter under the head of Spelling. Punctuation and capitalization are also vital factors. Grammar and rhetoric complete the requirements. For the most part, the ordinary adult's writing comprises letters and business forms. Grace and charm should characterize social correspondence, while accuracy and neatness are the principal elements demanded by the business world. To secure these aims is the most important, if not the sole, aim of elementary school instruction in written language. The wisdom of formal essays, descriptions, or narrations, below the high school, seems to the author exceedingly questionable.

Punctuation and Capitalization.—Punctuation and capitalization, plus spelling—excluding penmanship—comprise the mechanics of written language. Taken together, they are sometimes called dictation, as this is the method often used for drill and test exercises. Such designation of a subject of instruction by the name of a process of drill and test is quite significant and suggests a striking analogy with the inadequate spelling methods discussed in the last chapter.

Punctuation, like spelling, is capable of division into rational and arbitrary factors, though here the former predominate. The practical passing of the semicolon and the use of dashes instead of parentheses must be recognized by the teacher as an indication of the rule

of fashion in these matters. The principles of punctuation must be thoroughly grasped by the teacher so that she can discriminate between the essential and the non-essential in her instruction. Passages for study and drill should be carefully selected so that equivocal cases may be avoided.

An excellent method for acquiring ability to punctuate and capitalize is to copy neatly and exactly passages from literature. Time spent in this manner is most profitably employed. The passages thus copied may be compared with the original either by the pupils themselves or by their classmates, and subsequently discussed by the teacher. A live lesson will result from the self-active processes involved in answering searching questions as to the reason for the various punctuation marks. As in other subjects, there is the danger of progressing too rapidly. Because a class has grasped the function of the comma is no reason for hurrying on to complicated or puzzling sentences. The few exceptionally bright pupils are benefited at the expense of the rest of the class. The inevitable result is uncertainty and lack of confidence.

Primary Work.—As soon as the pupil has sufficient mastery of the letter forms he should be given practice in copying short passages from the Primer. Neatness and accuracy are the first considerations. While these habits are forming, short reproductions of interesting oral exercises may be written. The children's personal experiences, when susceptible to simple expression, form excellent material. Stories

read by the teacher, or by the pupils themselves should also be used. Well selected, striking pictures, usually first orally discussed, also afford a rich source of material for written work. Not only should these pictures be clear and striking, but they should be well within the range of the pupils' experience. Too often, the picture which happens to be the most accessible is the one used, despite its lack of pedagogic appropriateness.

The development of written language, both in the individual and in the race, indicates that its acquisition must differ greatly from that of oral speech. In the latter the progress is from the vague to the definite, from the inchoate whole to the specific elements. Written language, on the contrary, must be built up synthetically. First the letter, then the word and the sentence. For a long time sentence formation must be practiced before the paragraph is attempted. The simple sentence, as the unit of written language, demands relative perfection before more elaborate exercises are possible. The saving word "relative" indicates, of course, that real perfection in written language is an unattainable ideal. An analytic process from the vague to the definite becomes possible in the high school, where the students' written exercises become the basis for a thoroughgoing rhetorical study.

Distinction Between Spoken and Written Language.

—Much of the stilted oral work of the elementary school may be attributed to the failure on the part of the teacher to recognize the distinction between

the ideals of spoken and of written language. We have all met persons whose speech might be characterized as bookish. Expressions like "It was they," "Than whom none is greater," "He will have attained his object," etc., though absolutely accurate, give to the oral speech a flavor of affectation. They are objectionable to the extent to which they take the ordinary listener's mind away from the thought to the manner of its expression. There are some educators who would favor such an expression as "It was me" in colloquial speech. Though the author would not advise teachers to allow such expressions, he is forced to admit that it is only the traditional conservatism of education which compels his position. Without going so far as to advocate such ungrammatical forms, one may resort to circumlocutions to avoid bookishness. The ideal of written expression while including clearness, force, and grace, also demands conciseness, which frequently necessitates forms of expression far from colloquial.

There is also an important distinction between the vocabularies of oral and of written language. The "acquaintances" and sometime "strangers" referred to in Chapter IV. will fill a place more readily in written than in oral work. In fact, the written use of new words, where self-consciousness is apt to be absent, is an excellent means of converting verbal acquaintances into old friends. Just as many words would sound odd or affected in the pupil's oral language, so many passable colloquial expressions can have no place in written exercises. "I took the fel-

lows to the game" is good enough for talk, but must be converted for written purposes into "I took the boys, or, my classmates to the game." Similarly "Who are you laughing at?" must become "At whom are you laughing?" in writing.

The use of slang, especially by English speaking people, is a difficult matter to handle. Here as everywhere the teacher's attitude must be conservative. Even realizing the fact that slang has a definite relation to the growth of language, the school must be "the last by whom the new is tried." A nice sense of propriety in the choice of words is a most desirable possession. Doubt as to the status of a word should be sufficient to condemn its use. The pupil who habitually employs slang can be cured to some extent through the medium of his written work. In this case the pen is mightier than the tongue. Again, with older children an appeal to reason may be effective. An older pupil can be made to realize that words, like people, are judged by the company they keep. It will be interesting to explain the influence of refinement and of fashion in the obsolescence of words. "Belly," for example, is impossible in modern society because of its realistic picturesqueness. The right to use this and similar words is one of the few blessings of the poor and lowly. Appendicitis cursed abdomens have taken the place of "fair round bellies." The word "sweat" is a good example of a word rapidly becoming obsolete or relegated to the lower classes. The appeal to the pupil's pride through the criterion of aristocratic usage is not, how-

ever, universally applicable. The so-called better classes are often guilty of verbal, as well as of other fads. Scarcely a week passes but what some new slang expression is launched into use. Some of these expressions rise from the gutter to the mansion, others spring from the silliness of modern theatrical buffoonery, while still others originate in the usage of the better classes themselves. Whatever their origin, the teacher's attitude must be discouragement in oral expression and absolute prohibition in writing.

Study of Literature.—Not only in the mechanics of punctuation and capitalization, but also in the acquisition of style, the careful study and discussion of literary passages will be found invaluable. The attitude of literary criticism though not always compatible with literary enjoyment helps the pupils to discover the means used by the author in getting the effect. Art is to conceal art, but the English teacher's art must consist in digging up for her class the hidden tools of the master. Only in some such manner can the ordinary non-gifted mortal learn to write effectively. The accurate, thoughtful copying of a passage from Thackeray or Stevenson affords a means of unconscious absorption, which though mysterious in its working is real in its results. Every teacher should be familiar with Franklin's account of his use of the "Spectator" in his *Autobiography*, not necessarily to be exactly imitated, but regarded as a richly suggestive field of endeavor. Here at least we find now one person actually did acquire a style. Surely others may well profit by his example.

The Principle of Unity.—This all-important rhetorical principle, as are practically all others, is applicable to oral as well as to written language. It should be insisted on first in constructing sentences. Although in any extended exercise it is apt to produce an abrupt or staccato effect, it is of such fundamental importance that, in the beginning, grace and fluency may be sacrificed to it. The fact that each sentence should contain one and only one thought must acquire the force of a religious dogma. Oral exercises where sentence unity cannot be so insistently applied, furnish good material for written exercises in which the unity must be applied. It is probable here, as we found in the vocabulary work, that oral sentence unity will come through the medium of written sentence unity.

The paragraph as a unit will in the early part of the work identify itself with the whole composition, so that unity of an entire literary product will pedagogically precede the smaller paragraph unity. When the time arrives for this latter work—probably not until the fourth or fifth school year—the critical discussion of a well paragraphed story or description will be most helpful. Elementary school pupils are too young for the abstract generalizations of rhetoric. Example here is far more potent than precept. The teacher must be satisfied with distant approaches to perfection, otherwise she is doomed to discouragement. Oftentimes, the written work of a class may be corrected solely for its paragraph structure. This will focus attention on this one point. The author

has found it convenient to use a ¶ to indicate the place where a paragraph should begin and the same sign inverted to indicate that a new paragraph should not have been formed.

1 —
2 — 1
Frequently pupils will be assisted by a plan or outline of paragraphs, so that they may know just what is to be the subject of each. Such outlines should be worked out in class discussion and then a good one placed upon the blackboard to be used by the entire class. At other times a theme may be announced, and the pupils required to plan their own paragraphing in outline. These might be discussed, individual suggestions made by the teacher, and then used by the respective pupils. Such individual outlines should always be subject to correction in the course of writing. When a different plan from that adopted seems advisable to the pupil, he should consult the teacher, and continue his work if the change meets with her approval. It must be remembered that one of the principal reasons for any plan is to have something which we can change if we desire. The original idea, however, forces us to have a reason for doing something different. Hence the necessity of consultation with the teacher.

Emphasis.—Second in importance to unity is the principle of emphasis. As applied to sentences, it means that they should be constructed in such a manner that the reader may get the meaning with the least possible effort of attention. What was said about the pause in connection with oral expression furnishes the psychological basis of rhetorical empha-

sis. The pause, it will be remembered, looks before and after, giving us time to think about what has just been said, and prepares us for what is to follow. The periodic pause at the close of a sentence, therefore, means emphasis at the end of one sentence and at the beginning of the next. From which it is obvious that the beginning and end of sentences are the most emphatic positions. It is also obvious that they should be reserved for the most important words. Grammar school pupils should clearly grasp both the fact and the reason for rhetorical sentence emphasis. Arbitrary rules, such as "Never end a sentence with a preposition," are to be used cautiously, if at all. Precisely the same principles apply to the paragraph, only with greater force. The pauses between paragraphs are naturally longer, and visually more conspicuous than those between sentences.

As soon as pupils are old enough to understand this principle, it should be persistently applied. As in the case of unity, so here, it will be a good plan to focalize attention by correcting some exercises simply on the score of lack of emphasis. Oral expression will furnish more numerous examples of weak sentence structure than of lack of unity. Frequently, weak sentences, taken from the pupil's written exercises, should be placed upon the blackboard for class instruction and criticism. The pupil writer himself should be given the first opportunity to suggest a cure. If he is unsuccessful, other pupils may try. At times the teacher will have to suggest the remedy. Strong sentences also should frequently be placed

upon the blackboard for commendation and instruction.

Clearness.—As soon as the pupil is old enough, he should be made to grasp the fundamental nature of the principle of clearness. Since the purpose of language is to convey ideas, any interference with the attainment of this goal is fatal. Ambiguity is therefore the worst error possible in either written or oral expression.

The nice choice of words, particularly the careful use of pronouns, and the right placing of modifiers are highly important factors in securing clearness. The pupil must be willing to sacrifice grace for clearness, whenever this choice of evils occurs. Vocabulary building and recording, as suggested in previous chapters, will do much to dispel the mist enveloping so many words of frequent use. Doubt in regard to the precise meaning of a word should always induce a state of worry or annoyance, an affective state which nothing but the clearing up of the word should relieve. The study of synonyms and antonyms will serve to demarcate more sharply the distinctions between words. Prevalent errors, such as the use of *infer* for *imply*, should be made subjects of class instruction. Clearness, as well as propriety, also demands the avoidance of local or slang expressions. Even though we are not preparing a race of authors, it is important that the pupil should realize the necessity of using words which are understood in the same sense everywhere.

Careful instruction and drill are necessary to de-

velop a proper attitude toward the clear use of pronouns. The pupil must be strict with himself and form the habit of self questioning. "Will the reader know what the 'he,' 'this,' 'the former' stand for?" More than this, "Will the reader easily grasp the pronominal reference?" An absolute affirmative answer to these questions must be given before the sentences are to be regarded as satisfactory. The correction of ambiguous pronominal constructions by the class is an excellent exercise. In all such corrective work, the point to be illustrated must be plain, and the pupils must appreciate the reason for the change. Arbitrariness on the part of the teacher has no place in this work.

The improper placing of modifying elements is perhaps the most prolific source of sentence ambiguity. "Lost—a cane by a man with a golden head" will illustrate this kind of error. A humorous example of this kind forms an excellent type lesson. It facilitates reference on the part of the teacher, and insures the intensity of the acquisition. The longer the sentence, the greater the liability of such misplaced modifiers; so that clearness reinforces the principle of Unity in demanding that, in the early part of the work, sentences should be short.

Redundancy.—Not so vital as clearness, but of great importance, is the avoidance of redundancy. Conciseness is a more essential quality of written than of oral expression. If not carried too far, it means thought economy for the reader. Moreover, the unnecessary repetition of a thought dulls its edge and

induces monotony. Imperfect knowledge of words, the failure to grasp the full connotation of a term, is often responsible for apparent redundancy. When the child writes "Our play ground covered an acre, which gave us plenty of room" his concept of an acre probably is usually lacking in the definite idea of roominess. Of course, if the reader's concept is equally vague, nobody need complain of the sentence as written. Generally, however, redundancy is due to hasty or careless sentence construction, the pupil appreciating his error as soon as it is pointed out. Pupils should understand that repetition does not always constitute redundancy. Oftentimes a word is repeated for emphasis or clearness. Again the very effect of monotony may be desired by the writer. When Tennyson writes:—

Break, break, break on thy cold gray stones, O Sea!

the repetition of the word "break" becomes peculiarly descriptive of the ceaseless action of the ocean.

Figures of Speech.—So important is the bearing of figurative language upon the principles above discussed, that it deserves a separate paragraph heading. A good simile or metaphor is a great aid to clearness and emphasis, just as a pointed allusion or illustration frequently illumines an entire passage. The mere fact of singling out an idea as worthy of comparison at once intensifies it. Of course the more appropriate the analogy, the better. The writings of great authors can profitably be studied with this end

in view. "His mind was like wax to receive impressions and like marble to retain them" forces its superiority upon us when we place it side by side with "He was exceedingly impressionable and had a remarkably retentive memory." The paraphrasing of figurative language forms an excellent *reductio ad absurdum* for the class. The poverty of the pupils' results will serve to bring out in sharp contrast the force of the original expressions. Tom Hood's

Aunts as sure of dying rich
As candles in golden sockets.

is a good illustration of a simile which may be profitably used to produce the despair which leads to hope, or the darkness that precedes dawn.

The metaphor leading in one case to slang and in another to the faded metaphor forms an interesting study for the language class. Many slang expressions may be traced to an originally figurative use. Such work will tend to make the pupil introspective or analytical in regard to his language, and will still further emphasize the important fact previously noted, that words, like individuals, are known by the company they keep. What other explanation can be offered for the fact that "dear" in "my dear friend" is a legitimate faded metaphor, while "kids" in the sentence, "The kids were playing ball" is slang? Such language analysis is as entertaining as it is educationally beneficial.

The pupils should also realize that a figure of

speech to be effective must be striking or novel. With similes, as with stories, familiarity breeds contempt or indifference. When Dickens, in his *Christmas Carol* chances to use the simile, "as dead as a door nail," he enlivens it by his interesting analysis and suggestions. It will be found a good exercise to assign such "faded" or "dead" similes to the class and require them to originate new or live ones. The author has had some gratifying results from his classes in this work. "As cross as a bear," "As ugly as mud," "As thin as a rail," etc., have been transformed by grammar school pupils into really good similes.

What has been said about similes and metaphors applies with equal force to personification and allusion, which are but other forms of comparison. In addition to these figures, grammar school pupils should recognize and appreciate the importance of irony, hyperbole, and alliteration. The proper use of these figures—if alliteration may be included under this name—is attended with greater difficulty than are the figures of pure comparison. The teacher's attitude toward them should be one of encouragement when they are properly used.

It is needless for me to say that no scientific or exhaustive classification of figurative language has been attempted here. Gummere's splendid book will be found a great help to those grammar school teachers who desire a full acquaintance with the subject. The author believes that pupils should go no further in figurative language study than he has indicated in

this paragraph. Of course, there is no limit to the knowledge of the subject which should be possessed by the teacher.

Kinds of Composition.—It is doubtful whether elementary school pupils should be required to know and distinguish the four forms of composition: Description, Narration, Exposition, and Argument. Their reading and study will bring them in contact with all these forms, but this fact does not necessitate an accurate knowledge of them as forms. Description and narration, however, are of such importance that the author feels justified in contending that these two forms should be clearly distinguished in the elementary school, their aims and principles comprehended, and the two designations understood in their precise application to written and oral language.

Description.—As with various grammatical and rhetorical phases of this work, so with description, the pupil will have considerable practice before he needs or learns any exact terminology. Oral work of an extensive character will precede written exercises. When a certain fluency in written work has been acquired, these oral exercises may be made the basis for writing. They should deal for the most part with actual observations or experiences of the children. The best subjects are those details of the environment which the pupils know in common—the school room, its pictures, fellow pupils, the school yard, nearby buildings, etc.

The first aim in this descriptive work should be fulness and clearness. Ideals of accurate observation

should be developed as an integral part of the work. Commendation should be given to the pupil who detects some important point which the other pupils have failed to observe or note. Description by enumeration, as it is called, must be the prevailing form assumed by this work. At first, the accounts will be little more than itemized catalogs or inventories.

After considerable practice in this kind of description, the pupils should be led to realize the importance of the order of details and their relative importance or subordination. Some naturally gifted pupils will have appreciated this fact prior to definite instruction. Writing their compositions on the board, and placing commendatory emphasis upon their grasp of the relativity of details will serve not only to give them deserved encouragement, but will also form an inductive basis for instruction. Out of this work will develop the necessity for paragraph unity and a plan or outline. The suggestions contained in the previous section on Unity can be profitably applied here. The suppression or omission of unimportant details should also be discussed. The point of view which we desire to create in the pupil hinges on the necessity for ejective knowledge. He must ever ask himself "What picture will the person form who reads these words?" And this ejective standpoint applies to the order as well as to the enumeration of the descriptive details. "What is the most striking feature? What would a spectator notice first?" now become the important considerations.

When we come to description by suggestion and

by characterization, it is questionable whether we should attempt any more with elementary pupils than their mere appreciative recognition. Literary study should make clear these important forms of description, so that the pupils may distinguish them from each other and both from description by enumeration. Both characterization and suggestion will crop up now and again in the written work of the gifted or ambitious pupil. When they appear, they should receive commendation, but they should not be required.

Narration.—Good narration is more difficult than description. There are few really good story tellers. A story is, however, more interesting as a rule, than a description. Where description and narration are combined, as they are in most novels, the modern reader tends to expedite his work by omitting the former. And this habit is not so reprehensible as some would have us believe, for after all, the story's the thing. The pattern of the rug on which our hero kneels is not nearly so important as the fact that he is kneeling as he proposes marriage to the fair heroine. The wonderful development of the drama and short story, bristling with action, clearly indicates the passing of the old fashioned novel with its interminable descriptions.

As with description, so with narration, the pupils' early work must be a kind of enumeration of events, generally in chronological order but with little or no regard to their relative importance. Here again the exploitation of the bright or gifted pupils, ex-

hibiting and explaining their work, forms an excellent stepping stone for their less talented classmates. They must be led to see that the suppression or omission of unimportant detail, which in description was desirable, becomes for narration a necessity. The comprehension of this vital principle is far easier than its application. Oral narration affords a good basis for the teacher's constructive criticism. The word constructive is important here, for much harm is often done by an attitude on the part of teacher and class which is rather destructive and flaw detecting. There is, in almost every pupil's attempt, some commendable element, on which as a basis, may be carried out the work of reconstruction.

The critical study and analysis of good stories; e. g., Hawthorne's *David Swan*, Irving's *Rip van Winkle*, de Maupassant's *Diamond Necklace*, Poe's *Tell Tale Heart*, will arouse in the pupils a spirit of ambition and emulation, which, if it does not make good story tellers of them, will at least have accomplished the end of greater literary appreciation. In revising their own attempts, the pupils must practice distinguishing the weeds from the blossoms. Conscientious weeding of the superfluous and point-distracting is a most useful accomplishment. Poe's classic Critique on the philosophy of the short story should be familiar to every teacher of English. His views, which are now universally accepted, could advantageously be filtered through the medium of the teacher's instruction and imbibed by the pupils.

The title of a narrative is by no means an unim-

portant element. Critical consideration of literary titles will form an interesting exercise. The pronoun "Your" in Arnold Bennett's "Your United States" may serve as an illustration of a most felicitous epithet. Let the pupils discuss the titles of the stories they read and try to appreciate their appropriateness or suggest better ones. *David Swan*, for instance, might be profitably used as a lesson in title improvement. The pupils are prone to fall into the error of having the title tell too much, thus oftentimes diminishing the surprise element which is such an important factor in the reader's enjoyment. A title should be attractive and striking, but its absolute appropriateness should not be realized until the reading of the story is completed. Critical work of the kind here outlined is also productive of keener literary appreciation.

When we consider the Happiness value of this work in oral and written narration, we may justly make the additional statement that if it brings about any appreciable diminution of the boredom of the untrained story teller or raconteur it will have well earned its place in the curriculum.

Humor.—The ability to say and write funny things becomes more and more important for our spiritual welfare as the world in its social, political, and industrial aspects takes itself more seriously. The saving grace of humor was never more saving or graceful than at the present time. Although being funny is probably a hereditary trait or propensity, it is capable of training and development. Of course, a

certain spontaneity naturally belongs to humor. Its appreciation, however, can be furthered by definite class exercise.

No psychological analysis of the essence of the ludicrous will be attempted here. It will suffice to point out the prime importance of the element of shock or surprise. Numerous jokes and conundrums will illustrate the vital principle. Another important factor for the reciter of a funny story or joke to remember is the apperceptive preparation of the listener's mind—the cautious lighting of the fuse which will eventually cause the explosion. This preparation is directly the opposite of that stage of the teaching process which calls up appropriate or fitting apperceptive systems. Undoubtedly an essential part of the appreciation of humor consists in the self-satisfaction of the reader who finds his vanity tickled by apprehending the more or less recondite point. This last consideration has an important bearing, as it indicates that a considerable part of the reader's enjoyment is spoiled if the point is made, as in the case of Wouter van Twiller, "as plain as a pike staff."

Let me illustrate with the old conundrum, "What is worse than biting into an apple and finding a worm?" Answer, "Finding half a worm." The reader who may never have chanced to have heard this joke will at once notice the glow of self-satisfaction at seeing the point. There would be numerous ways of intensifying the surprise. The usual method, successfully tried by the author with the young and unwary, is to stir up the little apperceptive system,

rather by innuendo than by direct statement, concerning the riddle of two pigs under a gate making more noise than one. This will tend to make the victim feel himself a victor at once and promptly respond: "Two worms." Of course, with the older and more sagacious, subtler means must be devised. Applying these few fundamental principles, the writing of jokes and funny stories will prove a beneficial and interesting exercise. It will, moreover, accomplish the desirable end of turning upward the lip corners, and broadening the often long faces of teacher and pupils.

Originality.—In the discussion of Imagination in Chapter II. it was pointed out that the combination of ideas in creative activity should be considered original to the extent to which the individual's personality was the guiding principle. In other words, originality did not mean the creation of something different from anything previously existing, but only something resulting from the pupil's activity guided by principles or standards which could be called in a definite sense his own. Originality thus understood is seen to be practically synonymous with sincerity, and it is the distinguishing mark of all true art. The composer has gathered a fund of musical ideas from his teaching and his study. In combining these ideas, he is guided by his own standards of beauty or whatever emotional state he is tone-painting. The result is a work of art, the first requisite of which is that the artist be true to himself. The possession of a worthy self to be true to is also to be borne in mind

and a most difficult aim it is for the school. Similarly the painter in making a portrait produces a work of art to the extent to which he expresses himself on the canvas. Smith's portrait of Jones, though bearing a physical resemblance to Jones, portrays him as interpreted by Smith. The subtle nuances of expression, the emphasis and subordination are all Smith's. This fundamental fact will forever lift artistic portraiture above photography. The best, most accurate photograph of nature or of a human being falls short of being art exactly in so far as the camera falls short of the human being in personality.

The application of this view of originality to writing is obvious. Each pupil is a person, albeit an undeveloped person. Some educators are of the opinion that any attempt at originality in the elementary school is unwise. This view the author believes to be due to a faulty or incomplete analysis of originality. Understood in the sense here discussed, originality is possible to the kindergarten child. In fact the suppression of some forms which this originality takes becomes an important and trying part of the teacher's work. Suppression, however, must never become extermination. The opposite of originality is affectation, striving for an effect in a purely imitative way. There is, perhaps, a graver danger of affectation than of any other evil as a result of modern school procedure. It should, so far as possible, be persistently discouraged. This danger is particularly conspicuous in written language. The mechanics of penmanship, spelling, punctuation, and proper sentence structure,

all have to be learned in an imitative way. Spontaneity, self expression, tends to be long delayed in written work. This is unfortunate and to some extent unnecessary. If the right kind and amount of oral work is done, it can be so related to the written exercises as to form a basis for original written work. True, in style and other externals, the pupil's attempts will be imitative. Let him, however, feel that the subject he is writing about is his own. He may have to form an O or place a comma according to his teacher's direction, but his experiences and ideas are his own possession. From the beginning therefore, honesty and sincerity—in other words originality—at least as to content, are essential. Ability to distinguish between worthy and unworthy, fit and unfit ideas and thoughts is the result of careful training and development. But whatever selection he makes or is impelled to make, the ideas he expresses should represent his own thoughts and convictions.

Letter Writing.—In the recollection of the author, the dullest part of the school day was the period set aside for writing compositions. This was probably due to the fact that the instruction was aimless, and the subjects poorly selected, oftentimes with no regard for the pupils' knowledge or interests. The teaching of written language has doubtless improved greatly since the author's boyhood, but vagueness and aimlessness still seem to characterize this important branch of the curriculum. This condition is reflected in courses of study as well as in the instruction. Some excellent text-books have made their appearance

recently, so that in this, as well as in many other subjects, good texts are blazing the trail for good teaching.

One cause of the dullness of much composition work may be found in the fact that it does not appeal to the child as being of any particular use. No school exercise can long resist the charge of uselessness. The surest way to awaken a pupil's interest in any subject is to reveal to him its applications. Let him use what he has learned and his realization of the truism that knowledge is power will act as a spur to further endeavor. So far, then, as written language is concerned, we must remember that a tremendous majority of our pupils will, as men and women, write only letters and business forms. The latter need not be discussed here as their consideration belongs strictly to arithmetic. Letter writing, however, reveals emphatically the utilitarian aspect of writing. It should therefore, in the author's opinion, constitute the main if not the sole factor of the elementary course in written language.

The suggestion that letters should form the principal work of the elementary school may seem radical. However, when we consider the utilitarian appeal and also the fact that good letter writing implies a knowledge of all the principles discussed in this chapter, that it may, for example, include description and narration, the extreme character of the idea seems to disappear. The only difference between epistolary style and the principles discussed above lies in the admissibility of a freer and more colloquial style.

Even this distinction, however, would not apply to formal correspondence, which would of course constitute one of the forms to be carefully taught. Interest may be added by encouraging a system of pupil-parent, inter-class, inter-school or inter-city correspondence. Such letters should be written in the first place by the pupils, and after marking by the teacher, should be re-written correctly by the pupils and sent to their respective destinations. By no means an unimportant result of such work would be the constant drill in correct forms of address, signature, superscription, useful knowledge in which many of our elementary and high school pupils are sadly deficient.

Marking Papers.—The English teacher is often an object of deep sympathy among her colleagues, a sympathy explained by the fact that she is called upon to mark so many papers. Anyone who has ever done such work must recall its irksomeness. Still, it has to be done. And this for two reasons, first, the average pupil will not do his best if he feels that his work will not receive critical examination, and second, the marking of errors is the only possible way of insuring improvement. We must never forget, however, that the teacher is a person not a machine, and that there is a limit to her power of working. Her highest energy and vitality should be in evidence during the period when she is actually facing the class. The woman who stays up night after night until twelve or one o'clock marking papers is in no condition to vitalize her instruction on the following

day. The conscientious teacher must realize this important fact and plan her work accordingly. One obvious solution has been already suggested as a means of focalizing attention. The correction of just one kind of error, such as emphasis, unity, or redundancy will lighten the work considerably. A system of abbreviations (S for spelling, C for colloquial, etc.) is a plan used by many teachers. Again, both good pedagogy and economy of the teacher's energy can be secured by having comparatively short instead of lengthy exercises. It would not be a heinous offense to mark some of these shorter exercises during school hours, while the class is engaged in useful drill work not demanding the teacher's attention.

The returning of the marked papers should be made a time for individual instruction, the pupils consulting the teacher in regard to the meaning of the marks not understood or as to the best form of correction. A regular consultation period after school hours is a plan sometimes used, but I see no reason why this could not be done in a well conducted class during the re-writing.

class correction and rewriting

CHAPTER VIII

GRAMMAR

What is English Grammar?—This question assumes importance when we bear in mind that English has been called the grammarless tongue. If this statement were true, there would be no grammar to teach. Like most such striking expressions, however, it is a gross exaggeration. English being an analytic rather than a synthetic language is naturally practically devoid of inflections. But this only amounts to saying that its grammar is different, for example, from that of Latin or Greek. For years English grammarians have attempted to pour our English speech into the Latin grammatical mould. This attempt was of course foredoomed. The failure to accomplish this impossibility has probably led to the characterization of our language as a grammarless tongue. It may be confidently asserted that the proper use of the auxiliaries in English conjugations requires as much studious consideration as does the use of inflectional endings in a synthetic language.

Again grammar, as the term is regarded by many educators, is an abstruse philosophical study, which the immature intelligence of the elementary school pupil is not ready to attack. We shall discuss this

point somewhat fully in considering the time when grammatical study should begin. We must admit that a rational English grammar is still a desideratum rather than an actuality. There is, however, a sufficient mass of knowledge on which all grammarians are agreed. Of course differences of terminology are to be deplored, but even this condition does not present an insuperable difficulty. The fact of the matter is that there is such a thing as English grammar, and further that it is highly desirable that some portions of it should be taught in the elementary school. Differences in terminology among grammarians, however, make it necessary that we define our terms carefully; so that before we decide on the best method of teaching a topic, we may be fairly sure that we all understand the terms in the same sense.

Values of Study of Grammar.—The study of grammar has several important values. They may roughly be classed as first, disciplinary value; second, utilitarian—and conventional—values; third, propædæutic values. A clear grasp of the aim of grammar teaching has so important a bearing upon method that each of these values merits at least a paragraph of discussion.

Disciplinary Value.—Grammar is often justified as a curricular subject on account of its use in training abstraction, judgment, and reasoning. In Chapter I. there was explained in some detail the modern psychological attitude toward training a mental faculty. In Chapter II. the importance of ideas of relationship was insisted upon. Combining the implications of

these two discussions the so-called disciplinary value of grammar is seen to consist of splendid opportunities afforded for the creation of ideals of accuracy, clearness of statement, close scrutiny, and cautious reasoning. It is futile, however, to await these results as the unconscious influence of mere grammar study. The teacher must be on the alert to employ as they occur the many opportunities to arouse these ideals.

In referring to grammar as the logic of the elementary curriculum, as a few educators have remarked and a hundred others copied, there is reference probably to the frequent occurrence of ideas of relationship, which, until recently, had not been regarded by psychologists as a separate kind of ideas. The comprehension of relationship is absolutely necessary to a grasp of grammar. In so far as language and thought are intimately connected, verbal relationships become in a measure thought relationships. In focalizing attention upon these relationships of ideas, as grammar does, there results not formal discipline, as usually understood, but what results in practically the same thing, a stock of ideas of relationship. This definite enlargement of the mental content means corresponding growth of intelligence in so far as such ideas enable us to comprehend our environment more readily and otherwise further mental organization.

Utilitarian Value.—It is difficult to distinguish between the utilitarian and conventional values of grammar. To speak and to write correctly are both useful and proper accomplishments. To understand what

one reads is manifestly useful. The influence of grammatical knowledge upon the formation of correct habits of speech is questioned by many educators. Some regard it as practically negligible. From this opinion I dissent absolutely. All will agree that habits of correct speech are, as a rule, the outcome of living in an environment where correct forms are constantly heard. If such environments were universal, there were probably no need for the study of grammar to accomplish this end. Such environments are, however, far from universal. Moreover, neither the teacher's careful speech nor her insistence on correct forms in the classroom will suffice to obliterate the tremendous influence of bad speech surroundings. A very small percentage of the child's waking hours—I think about eight per cent—are spent in school during the first ten years of his life. The force of the teacher's example plus regular drill on correct forms cannot hope to compete with the ninety-two per cent of home and street influence. The generalizations of grammar are needed to supply what the pupil may possibly not apply when learned but what he may gladly resort to when the social demand arises. The rules of grammar form, as it were, a good suit of clothes which the country bumpkin may wear when he visits the city, or which he may acquire the habit of wearing constantly if he perchance take up a permanent residence in the city. What these helpful generalizations are will be discussed fully in a subsequent paragraph.

The study of grammar has a more direct bearing upon correct forms of written language. Writing, for

most pupils, tends to remain an artificial accomplishment. It is only in so far as written language is an outgrowth of oral expression that it is apt to exhibit errors due to unfortunate environment. The thought and deliberation required for writing render less liable errors of mere carelessness. Just as the artificial nature of this medium of expression makes it better adapted to vocabulary building, so it also forms a good field for the sowing of grammatical seeds. "Taller than him," for example, may slip into colloquial speech long after it has been banished from writing. So in written work, many of the generalizations of grammar form a basis for the mental organization of language relationships and thus substitute a rational appeal for the inadequate results of repetition or drill. I do not wish the reader to construe what has been said above as intended to discredit the potency of the teacher's example and drill in correct grammatical forms. Such work is invaluable. My point is merely that the time which can be set aside for such influences in school is insufficient to produce lasting results. As soon as the pupils are mature enough to comprehend the generalizations of grammar, reasoning on the basis of principles must reinforce imitation.

The most strictly utilitarian value of grammar is the aid which it gives the pupil in understanding what he reads. This is not true of grammar in general but applies particularly to grammatical analysis. The habit of regarding a sentence as a synthesis of subject, predicate, and modifiers, gives the pupils a readier insight into the relationship of ideas in the para-

graph, which is but another way of saying a quicker comprehension of the thought. The more involved the sentence—e. g., the inverted orders of poetry—the more necessary it becomes to grasp these analytic relationships. The possession by the pupil of an analytic terminology is a great aid, as it enables the teacher to clear up difficult passages by brief references instead of distracting circumlocutions. Such or such a word is the “subject,” this or that “phrase” “modifies” the “predicate,” etc., etc., simplify immensely the interpretative teaching of literature. Besides, this grammatical terminology facilitates the correction of errors. “You should use the ‘adverb,’” says the teacher to the boy who says “He ran quick.” No further illustrations are necessary to show the indispensability of such a terminology.

Corrective Grammar.—Before considering the propædæutic value of grammar, it seems desirable to enumerate briefly those parts of the subject which have a sufficient bearing upon correct forms of speech to justify, on this basis alone, their inclusion in the elementary school curriculum. The analytic elements of the sentence have already been referred to as supplying an indispensable nomenclature. The names and principal properties of the parts of speech are also necessary. The declension of nouns, except for the possessive forms and formation of plural, is useless from the standpoint of this paragraph. The declension of pronouns, however, both personal and relative, assumes great importance particularly in connection with the teaching of case. The distinction of modes

is unessential, but the tenses of the indicative must be thoroughly comprehended. The distinction between weak and strong verbs is useful, as is also the learning the principal parts of the common strong verbs, particularly the terms preterit and past participle and the use of the latter in the compound tenses. It is helpful to know what is meant by an infinitive, so that the pupil may know what it is that is being "split." It would require too much space and explanation to make an exhaustive enumeration of all the "corrective" parts of grammar. What has been mentioned will perhaps suffice to indicate the nature of this kind of grammatical study. It is a very useful habit of mind for the grammar teacher to examine every part of the subject for the purpose of ascertaining its relationship to correctness of speech. Frequently helpful suggestions as to methods will result from this view point.

Propædeutic Value.—Some educators lay stress on the importance of the study of English grammar as a preparation for the study of other languages. It is obvious that such propædeutic value will be directly proportional to the resemblance of the languages in regard to vocabulary and syntax. There is no doubt, for instance, that a French lad will find his knowledge of French grammar a distinct aid in the study of other Romance languages. It would not be of nearly so much assistance, however, in his acquisition of German or Norwegian. Similarly, the study of English grammar will form a better preparation for the study of German than for that of French or Latin.

It is highly desirable that an English speaking pupil should possess a tolerably complete nomenclature of English grammar before attempting the high school study of a foreign tongue. The difficulties of an unknown vocabulary are sufficiently estranging without the additional complication of new abstract grammatical conceptions. The appreciation of subject and object, number, tense, etc., in his mother tongue will render the grasp of these subjects much easier in connection with a foreign language.

There is room for much improvement in grammatical terminology. The responsibility for the present inchoate condition rests primarily upon the writers of text-books. We find a number of different terms used for the same idea in various English grammars. This alone is to be deplored, but it is made even worse by the additional varieties found in the foreign language text-books. This condition is certainly remediable and its continuance diminishes perceptibly the propædæutic value of elementary English grammar. If the Latin, Greek, and German grammarians insist on the term "genitive" is it not high time that our English text-books should substitute this term for "possessive"? Numerous other illustrations could be cited. And it is not merely a matter of words. Oftentimes, the same word will be employed in very different senses by different grammarians—I use the latter term courteously rather than advisedly, the designation "text-book makers" being more appropriate—as exemplified by such terms as *voice* and *clause*. It would seem desirable that uniformity should exist

at least in all the schools of a city system. Some practical results along this line might be secured by a committee, consisting of superintendents, college professors, principals, and teachers.

The Place of Elementary Grammar.—As indicated above, there are some educators who regard the study of grammar as too difficult for the elementary school. Its abstractions, they contend, are beyond the mental grasp of the average pupil. Others would begin English grammar not lower than the seventh or eighth school year. Their argument is reinforced by the consideration of its propædæutic value. Since foreign language study in most American schools is reserved for secondary education, it is held that English grammar in so far as it prepares for such study is best taken up at the conclusion of the elementary school course.

Both of these arguments fail to take into consideration the tremendous corrective value of English grammar properly taught. It would be truly lamentable if the poor teaching characteristic of this subject were to lead to its banishment from the curriculum. Ill advised courses of study and term examinations must perhaps share the blame with faulty teaching methods. To some extent the former are the cause and the latter the effect. The trouble has been that the complications, the niceties and disputed points of grammar have taken up too much of the teacher's time. Interesting and indispensable drill in fundamentals has been thrust aside in consequence. These fundamentals are not essentially difficult, in fact, the elementary principles of analysis are well within the comprehen-

sions of fifth year pupils. The distinction of noun and verb is not too hard for a sixth year pupil, nor is the recognition of the principal parts of speech—not necessarily the unfailing recognition, but that of the simpler typical instances. Number and case, voice and tense can be so taught as to be readily grasped—in their simple forms—by seventh and eighth grade pupils. It is the insistence on the simplicity of the forms which principals and teachers should ever keep in mind. The practice of taking a poem at random and requiring the understanding of its every syntactical and etymological point is responsible for much of the disrepute into which grammar teaching has fallen.

Grammatical Concepts and Definitions.—What was said about concept formation in Chapter II. applies directly to the study of grammar. Particularly important is the distinction between connotation and denotation of terms. Much of the poor teaching of technical grammar in the past has been due to the failure of teachers to grasp the nature and development of the concept. The formal definition, oftentimes committed to memory, has taken the place of that normal growth of ideas attainable only through self-activity. Sooner or later even traditional teachers were bound to recognize the fact that ability to recite a definition was frequently compatible with conceptual vagueness or profound ignorance. Furthermore, the demand for complete and accurate definitions naturally emphasized the abstruseness of the subject and contributed its quota to the disregard for technical gram-

mar, a disregard which has come dangerously near banishing it from the elementary curriculum.

The value of grammar, so far as its nomenclature is concerned, does not consist of the precise grasp of the connotation of its terms, not thorough-going definitions, but much more of a ready recognition of its unequivocal denotations, with just as much connotative definition as may be well within the range of the pupils' comprehension and thus assist the attainment of conceptual clearness. The trouble with many grammar textbooks is that they are neither scientifically grammatical nor avowedly pedagogical. Teachers would frequently be willing to sacrifice the former qualification for the latter. The old-fashioned method of studying lists of prepositions had a psychological justification in the fact that it was based on the importance of ability to recognize prepositions wherever they occurred. Where the denotation of a term is narrow, as with prepositions and relative pronouns, committing lists to memory is not a bad plan. The examination of the uses of such words in various contexts will furnish sufficient perceptual basis for the concept. Provisional, intelligible definitions should accompany this denotative work. Surely such a plan is immeasurably superior to the unreasoning dependence on formal and unintelligibly accurate definitions. A pupil instructed in the manner here suggested will have little difficulty in distinguishing, e. g., between "but" used as a conjunction and the same word used as a preposition. The learning of some carefully worded accurate definitions may perhaps give a finishing touch

to eighth year grammar study, but even this is of doubtful wisdom. Of what earthly use is it, from any value standpoint, to require a definition of the article? That the articles are *a*, *an*, and *the* is all the conceptional knowledge of this part of speech compatible with the aim of the elementary course. Where, however, connotations are sufficiently simple as in the concepts of number and person, definitions are a help, but even here there is danger in the formal definition learned verbatim.

The Socratic Method.—The discussion of the preceding paragraph brings us naturally to the consideration of self-activity as the prime method of grammar teaching. The formation of concepts into permanent and organized entities demands that the pupil should use his own observation, reasoning, and abstraction. The Socratic method becomes particularly applicable here. The child, before entering on the study of grammar, has had considerable practice and training in grammatical forms. He uses with fair accuracy the various parts of speech and applies, though unconsciously, the principles of syntax. All that remains for the teacher is the nice task of clarifying and classifying his mental content. The labeling of the resultant concepts constitutes the important work of grammatical terminology. The fifth grade pupil, for example, habitually uses subjects and predicates in his written sentences, but does not know them as such. Sentences written by the pupils themselves and placed upon the blackboard can be used as the basis for a So-

cratic lesson out of which the subject and predicate ideas will soon develop. Extensive drill with constant repetition of the words subject and predicate will soon fix these concepts. The teacher may feel fairly satisfied with her instruction when the entire class has grasped the fact that every sentence has a subject and a predicate, and can pick them out unfailingly in simple sentences. In addition to this knowledge, provisional descriptions—not definitions necessarily—of subject and predicate are all that should then be required of the pupils. Most, if not all, of the elementary concepts of grammar can be interestingly developed in this Socratic manner.

The Type Method.—Although recognition of denotation supplemented by provisional definition forms the principal aim of grammar teaching, so far as its technique is concerned, clearness of conception may occasionally be aided by an application of the type method. The thorough teaching of one such preposition as “in” or “through,” with special reference to its function as a word of relation, will aid considerably in the grasp of the use of the preposition as a sentence element. This is a good method in developing such a concept as participle where an accurate definition would probably be insufficient to insure denotative recognition. It should be observed, moreover, that in the elementary school, the words whose recognition and grasp of function are demanded, should depart but little from the typical form. Ambiguous or equivocal cases should be studiously avoided. This

important consideration—too often disregarded—renders the type method of instruction particularly valuable.

False Syntax.—Reference has been made previously to the educative value of an error clearly grasped as an error and emphatically corrected. Exercises in so called false syntax formerly characterized much of the instruction in grammar. This useful work has fallen into disrepute in some quarters largely because of the poor teaching to which it has been subjected. It has been urged, moreover, that it is pedagogically unsound to place the wrong form before the pupils. They should see and hear, so far as possible, nothing but the right. The phrase “so far as possible” suggests the answer to this plausible objection. In our modern, democratic, public school, errors of speech are as unpreventable as flies in an unscreened summer house. The analogy with this pesty insect can be further extended to its contagion spreading propensity. Many a child who never used “ain’t” in his pre-scholastic experience, soon finds it a welcome addition to his vocabulary. This contaminating influence of association applies with equal force to every phase of the “doing” side of a pupil’s mentality. Errors of speech **do** and probably **ever will** occur, and the comparatively feeble influence of a careful teacher’s example is impotent to correct them. These errors should be emphatically recognized as such, the reason for the error pointed out clearly, and everything possible done to focalize the pupil’s attention. The only caution necessary is the avoidance of the exploitation

of errors which are infrequent. These should be made the subject of individual rather than class instruction. The danger that poor or careless teachers may occasionally use such infrequent errors as class exercises is not sufficient, however, to justify the placing of a ban on these invaluable lessons.

Specific Methods in Grammar.—For fear that the principles thus far enumerated in this chapter may seem too general, and in order to aid the thoughtful teacher in their application, a few discussions of the method to be used in specific grammar lessons will complete this chapter. The purpose of this book, as has been previously stated, is not to give a set of prescriptions for the teaching of detailed topics. Nevertheless, the inclusion of some illustrative material may find its justification as a type method, and be not unwelcome to the teacher. A summing of the more important of the above suggestions may also be helpful. No effective grammar teaching is possible without a clear idea in the teacher's mind of the aim of the lesson. The preponderance of one or the other of the various aims—disciplining, corrective, propædæutic, must consciously influence all the phases of the teaching process. What has been discussed under preparatory value as “theoretic” should also be considered. There are many parts of grammar which while they have no distinct value in themselves are yet exceedingly helpful in connecting and organizing other portions of the work.

Next in importance to the determination of the aim of a specific lesson is the clear grasp on the part of the

teacher of what she is going to teach. Any vagueness as to what case or tense really is, is fatal to the success of the lesson. To this extent teachers must be grammarians. Where no definite terminology has been set down by her superiors, she must endeavor to aid in the standardizing of a terminology for her own school at least. It is obvious that in no other way can grade correlation be accomplished.

Again, the teacher must ever have in mind the importance of the preparatory stage of teaching. She must constantly ask herself "What knowledge may I safely presuppose?" This constitutes the ejective pursuit. Also "What part of this presupposed knowledge should be vividly recalled so that an apperceptive basis may be supplied for the new lesson?" The failure to give due consideration to these questions is responsible for many failures in teaching grammar. If tests indicate that the class has not the requisite previous knowledge, the teaching of the new work must be deferred until such preparation is established. Belaboring the previous teacher is a weariness to the flesh and an absolute waste of time.

The nature and development of the grammatical concept must also be clearly borne in mind. The distinction between connotation and denotation is especially important, particularly in relation to the place of definition and in determining the character of efficacious drill.

Teaching Modifiers.—As there is practically unanimity among grammarians concerning the nature of modifiers, the teacher need concern herself merely

with such minor differences in terminology as whether to call a clause used as a noun, a noun clause or a substantive clause; whether to use the term "complement" to include objective as well as predicate objective modifiers, etc. As pointed out before, she should do her utmost to bring about uniformity in her own school if not in the entire city school system.

As the aim of instruction in all grammatical analysis—of which modifiers form an essential part—is to facilitate the understanding of what the pupil reads and to supply him with an intelligible nomenclature for this work as well as for his written and oral language, it behooves the teacher definitely to keep these aims in view. This utilitarian value should be apparent from the very beginning of the work, or at least as soon as the concept of the simple modifiers is formed. The importance of grasping the interdependence and relationships of words and phrases in getting at the meaning of a passage will appeal even to a fifth grade pupil.

The main presupposition for the teaching of modifiers is the pupil's knowledge of the sentence as such and of the two principal parts of all sentences, subject and predicate. The sentences used should in the beginning invariably be in the rational order, subject first, predicate second. They should be well within the range of the pupil's comprehension as to subject matter, and not so striking or novel as to distract attention from the grammatical ideas to be developed.

The nature of the concept to be formed is another important consideration for the teacher. A slight

psychological examination will show that the concept "modifier" is so general in its application, has such an extensive denotation, and so rational and simple a connotation, that a fairly thorough-going comprehension of the latter is by no means too difficult for a fifth grade pupil. It might be well to develop the idea at first in connection with single word modifiers, but phrases and clauses should soon be included in the work, though probably not by those names. As the necessary mental content is already in the pupils' minds awaiting classification, the developing or Socratic method is particularly applicable. To take a specific illustration. Write on the blackboard such a sentence as "The horse fell." Get the pupils to name the subject and the predicate. Then have them concentrate their attention upon the subject "horse." Lead them by a series of questions to see that though "horse" is a word, it calls up in their minds a kind of picture. Show them that every word whose meaning they know calls up a picture in their mind. (The figurative and inaccurate nature of the word "picture" here is justifiable on pedagogical grounds.) Write some meaningless but pronounceable letter combination, such as "glat" on the blackboard, and lead the class to differentiate introspectively between such a combination and a real word. This contrast in mental content will serve to emphasize the fact that every word stands for some mental "picture" or "thought." The transition to the latter term should be made as soon as possible. Now, after being sure that each pupil has some sort of mental picture of "horse,"

arouse their curiosity by telling them that you are going to **change** this picture. Rewrite the sentence, leaving a sufficient space between the word "the" and "horse," thus "The horse fell." Then write the word "lame" in this space. Ask what this additional word has done to their mental picture, and they will readily understand that it has changed it. Give them the term "modifier" as synonymous with that which causes change. Then fix the concept by extensive drill using a variety of simple sentences, having the pupils suggest different modifying words. The same process can then be carried out with the predicate, adding picturesque adverbs, such as "sideways," "suddenly," etc. Phrases and clauses may be introduced as soon as sufficient drill in single word adjective and adverbial modifiers has been given. These phrases and clauses might be distinguished from words as "group" modifiers, deferring the distinctive terms for a subsequent grade. They should at first consist of synonymous expressions substituted for the adjectives or adverbs. Thus, "The lame horse" could become "The horse with a broken leg" or "The horse which was lame."

The teacher must be on her guard against allowing class comprehension of the topic to lead to non-typical or ambiguous cases. The failure, on a large part of the class, to grasp these more difficult points, will inevitably result in confusion and lack of confidence. Dullness must be prevented by well planned and extensive variety of drill, with reference now and again to the real nature of the modifier as above developed.

There will later grow out of this drill a more formal attitude toward the concept, which will extend its denotation to such unpicturesque elements as "a," "the," "some," etc. The connotation at the same time will naturally increase to include all words or united groups of words in sentences other than the simple subject and the simple predicate. This enlargement of the concept may be advantageously deferred until the ending of the fifth or the beginning of the sixth grade.

It will not be necessary, nor, in fact, in keeping with the plan of this book to go into detailed consideration of the subsequent analytical classification of phrase or clause modifiers. The above discussion has been sufficiently protracted to serve its purpose as a type lesson. It might, however, be added that, from the corrective standpoint, the teacher should from the beginning show the necessity of contiguity between word and modifiers, so as to avoid ambiguity.

The Teaching of Case.—In the teaching of case, it must be remembered that we have here a grammatical notion which is at once formal and rational. The teacher should have sufficient knowledge of some foreign language such as German or Latin to set off clearly and sharply in her mind the nature of case in English grammar. She must appreciate the fact that as applied to nouns it has practically no utilitarian value whatever, but that as applied to pronouns it is indispensable to the consciously correct use of English. The extent to which she considers the propædæutic aim will determine the form and emphasis of her in-

struction. If the study of English grammar is to prepare for that of German or Latin, nouns as well as pronouns will probably be declined. This aim may also lead to a less rational but better preparatory terminology, e. g., the use of *genitive* instead of *possessive*, *accusative* instead of *objective*, and possibly *dative* for the indirect object. The preponderance of one or the other of these aims, corrective and propædæutic, will exert great influence upon the method of teaching to be used; and it is possible, though not always expedient, to combine them.

The presupposition in the teaching of case consists of knowledge of nouns, verbs, prepositions, pronouns, and the subject and object relations. Since case is so largely a formal distinction, the varieties of form of the personal pronoun constitute the most important denotation. For the first few months, instruction and drill in case should be limited to the personal pronoun. The changes of form corresponding to syntactical relationships serve to emphasize this important formal aspect of the concept of case. A rational development, however, should correspond with the formal. The pupils should be led by questioning to see that the nominative form is used as subject, objective as object, and possessive showing ownership. If the teaching of case is begun in the seventh school year, the first half of the year should be limited to these rational relationships. Restricting the exercises to the personal pronoun will give the formal aspect of case sufficient prominence, so that when other syntactical uses of the nominative and objective occur, the transi-

tion to the case concept as purely formal may be comparatively easy. The application of case, other than the possessive, to nouns is required by many courses of study, probably as preparatory for the study of foreign languages. It may be taught in an interesting way by comparing it with real noun case as shown in Latin, Greek, or German. A reference to noun case endings in old English or Anglo Saxon, with some historical account of the manner of their disappearance, will add interest as well as a semblance of rationality to the teaching of case of English nouns. The relative and interrogative "who" should be taught after sufficient practice in the personal pronoun has been given.

Enough has been said about the formal aspect of pronominal case to warrant the recommendation that paradigms of declension be learned and recited verbatim. Such exercises insure the retention of the various forms and keep them in a definite and usable shape in the pupils' minds. They also serve as an excellent preparation for similar work necessary in the study of foreign languages.

The obvious utilitarian value of a knowledge of case plainly indicates its corrective applications. Here we have a good illustration of what was said above in regard to the practical use of grammatical generalizations. The boys who habitually say "Me and him went" will probably later feel the social obligation of speaking correctly. Their knowledge that the pronouns in this sentence are nominative, being the subject of "went," gives them a rule to which they may

refer when in doubt. The purpose of much of the drill in case should be corrective. In the first year of the teaching of this subject, examples should be limited to plain subject nominatives and objectives.

Later, predicate nominatives and appositives may be taught and drilled upon. Frequent exercises in placing the proper pronouns in the blank spaces of sentences is an excellent plan and one which has none of the supposed disadvantages of placing the incorrect forms before the pupils. For example, place a number of sentences requiring "he" or "him" on the blackboard and have the pupils write the correct form. "—— is going away." "I saw ——." "Mary is older than ——," etc.

Voice of Verbs.—Voice has been selected as a type lesson because it illustrates so well the confusion of ideas characteristic of modern English grammar. There are two fundamentally distinct notions of voice. Courses of study frequently indicate which of the two is to be taught, at the same time giving, rather inconsistently, to the principal a choice of text-books taking the other point of view. The method of teaching this topic will be materially influenced by our acceptance of voice as (a) a property of transitive verbs alone, or (b) a property of all verbs. The decision will affect particularly the rational aspect of the teaching. There is with voice, as with case, a prominent formal side, which will not be materially affected by the above decision. In the following discussion, the author will assume voice to be a property solely of transitive verbs, as this seems the more logical grammatical view-

point. It is important to add, however, that the other way of considering voice has much to be said in its favor.

We must presuppose here a knowledge of the principal parts of speech, of the subject-predicate relationship, the object, both verbal and prepositional, and the distinction between transitive and intransitive. The latter presupposition is absolutely essential to teaching voice in the sense here taken. It would not be necessary if we considered voice as a property of intransitive verbs. The definition of transitive cannot properly use the word object without already assuming a knowledge of voice. The idea to be conveyed is that the action passes to a receiver. A useful part of the preparatory stage would consist of exercises in which the pupils should select transitive and intransitive verbs, the former being used in both active and passive forms, though not so named. After this, the pupils might read and the teacher write upon the board those sentences containing transitive verbs. These verbs should be underlined, and the pupils' attention invited to a property which they possess and which the intransitive verbs lack. The name of this property should be given only after some elementary comprehension of it has been attained.

The exercise should have been so planned that about half of the verbs were active and the others passive. Needless to say, they should be extremely simple and typical. Leaving the selection of sentences for such lessons to the spur of the moment is a hazardous practice for the most resourceful teacher. In each

sentence the pupils should be asked to name the doer and the receiver of the action. They should then be led to see that in some cases the subject does the act and in others it receives the act. A distinguishing mark, e. g., a small circle, might then be placed over each active verb and a cross over each passive verb. The pupils should next be asked to transform each sentence, without altering its meaning, changing it so that each doing subject becomes a receiver and each receiving subject a doer, and these changed forms again marked with circle and cross. The ability thus to change the verb from one form to the other is made an integral part of the concept and thus definitely excludes the intransitive verb. Pupils may be shown the impossibility of effecting this transformation with intransitive verbs, using such sentences as "The boys ran down the street."

The concept may now be labeled by the term "voice" and provisional definitions obtained from the class, the ability to change from subject doer to subject receiver being the essential feature. Explaining the appropriateness of grammatical terminology may at times assist in the retention of a term and help to fix its meaning. The advisability of such a procedure must be determined by considering the real benefit derived from it. The significance of the term voice is perhaps too far-fetched to be properly taught in this manner. Not so, however, with the terms active and passive. The former word is probably already in the pupils' vocabulary and its appropriateness will be readily grasped. The term passive will perhaps re-

quire teaching. This is advisable not only on account of its grammatical significance, but because it will be a useful addition to the pupils' general vocabulary. The word should be used in a great variety of contexts, looked up in the dictionary, and recorded in the pupils' individual note books. "The child was carried up stairs" contrasted with "The child carried her doll up stairs" well illustrates the passivity and activity of the child. Numerous illustrations of this character should be given.

The caution should be repeated here that it is necessary to keep all illustrations simple and typical. There is no bounden obligation upon the teacher to explain every verb which occurs in a language passage. Such class explanations are not even justified by questions from the brighter pupils, who may very wisely be told to come to the teacher after school hours for individual instruction. Such a suggestion should, however, be given in a spirit of encouraging commendation and not rebuke. Sometimes, too, these questions are only the natural outcome of an ostentatious desire of the pupils to hear themselves talk, a propensity to which there seems to be no age or sex limit. Whatever the motive of the question, it is obviously wrong to waste the time of the class and cause mental confusion by discussing complex matters beyond the comprehension of the average pupil. Sentences in which the participial portion of the passive verb may be construed as a predicate adjective, or in which the phrase containing the doer of the act must be supplied should certainly be avoided in the begin-

ning and perhaps throughout the elementary course. It would be the height of folly, for instance, to analyze such a sentence as "The boy was known to his classmates but unknown to his teachers." There is perhaps a real place in school work for exercising the puzzle instinct, but confusion is certain to follow its application to grammar teaching. The reader who has had any teaching experience will doubtless pardon the protracted repetition of the caution contained in this paragraph. One could preach from now to doomsday without eradicating the evil.

After the concept of voice has been adequately developed in the above rational way, emphasis should be laid on the formal side. The method of constructing passive forms should be pointed out, particularly the use of the participle instead of the preterit. The obvious corrective applications of this aspect of the subject should form a basis for considerable drill. Sentences with the participle omitted should be placed on the blackboard to be filled in by the pupils. A considerable knowledge of preterits and past participles of irregular verbs is a necessary presupposition of this work. Drill in conjugation both active and passive assumes importance, when we consider the propædæutic value of English grammar. From no other point of view—if we except the verb "to be"—is it justifiable in the elementary school.

Tense.—The proper teaching of tense again illustrates the necessity for the teacher to make up her mind definitely as to what grammatical tense really is. As in so many parts of grammar there is the formal

as well as the rational side. Considered from the standpoint of its propædæutic value, the formal side is the more important. However desirable it might be, there is some doubt as to the practicability of a uniform terminology for tense in the various modern and classical languages. The wisest course for the teacher in consultation with the principal, if given any choice in the matter, is to select a grammar text-book which seems to present a logical and teachable treatment, and follow it faithfully. At the same time, all live teachers and supervising authorities owe it to their profession to aid in the attainment of a uniform terminology for English grammar at least.

No further presupposition for the teaching of tense is necessary than the knowledge of the verb in its general nature as indicating action and the distinction of time as present, past, and future. The latter consideration should perhaps be included as the principal factor of the preparatory stage of the teaching. The words "present" and "past" are probably "old friends" in the pupils' vocabulary. The word "future" though likely an "acquaintance" should become thoroughly familiar. In fact, the concept "time," regarding as its connotation the three elements present, past, and future, might well be made the subject of an introductory lesson. Oral and written language work on this theme will be found an interesting method of fixing the concept. Such considerations as what the pupils can remember of their past lives, what aspirations they have for the future, and accounts of their present home and school life

suggest appropriate topics. Emphasis on the words present, past, and future should accompany these exercises.

The fact that a verb can show by its form whether the action is present, past, or future should then be stated by the teacher, no mention whatever being made of the word tense. The curiosity of the pupils would thus be aroused as to how verb changes could accomplish this end. Typical sentences, in which the same verb is used to indicate the different time ideas, should be placed upon the blackboard, and the pupils should point out and make lists of the different forms. To indicate present time, the progressive form—not so named however—should preferably be employed. It has the advantage of clearly emphasizing the time idea. “I am writing” is unequivocally present in its significance, while “I write” can and generally does express mere ability. The past and future, however, present no similar difficulty. In fact, examples should be given of the various tense forms of the indicative mode, though only the threefold time significance should be mentioned by the teacher or required from the pupils.

After a month’s drill in such exercises, the pupil is ready for the word “tense” as a formal label. The term should be introduced after the distinction between ordinary past and present perfect has been developed. The need of a terminology will then be apparent to the pupils. The three compound tenses of the indicative mode can also be taught as rational time distinctions and related to their designations as action

completed in the present—present perfect, completed in the past—past perfect, and to be completed in the future—future perfect. The recognition of these tenses by their form and the proper auxiliaries to be used in their construction soon becomes the essential part of the work. Instruction and drill in the tenses of the indicative mode can wisely be given in connection, of course, with other grammar work, an entire term.

The proper use of *will* and *shall*, and of the preterit and past participle constitutes the principal correlative application of the first work in tense. The future auxiliaries are peculiarly difficult, although much practice in the correct forms should precede the instruction. Practice and precept combined, however, often fail to bring about the desired result. **Nil desperandum** must be the teacher's watchword. It is quite possible that colloquial disregard for the distinction of *will* and *shall* may eventually destroy it. This destruction unfortunately is not yet accomplished, and the teacher must ever be a conservative barrier against all so-called corrupting influences. The correct formation of the perfect tenses of the common verbs *see*, *go*, *come*, *write*, etc., will also test the average teacher's patience and ingenuity. The conventional value of success here demands that she leave no stone unturned to accomplish lasting results. Variety of drill and vigilant correction will do much.

The tenses formed with *may*, *can*, *must*, *could*, *should*, *would*, etc.—sometimes called the potential mode—must be taught in a purely formal way. The

same is true of the subjunctive and infinitive forms. In fact the formal side of the tense concept may well assume prime importance when drill in conjugation is begun. Even in the indicative mode, the so-called present tense frequently indicates future time. The correct use of the auxiliaries, e. g., *may* and *can*, forms the principal correctional aspect of the subsequent exercises in tense.

A Caution.—As indicated several times, it is by no means the purpose of this book to present detailed lessons in the various topics. Even if this procedure were deemed desirable, the size of the work would make it decidedly unwieldy. The aim is rather to arouse interest in method and render teachers thoughtful. Where detailed advice is suggested, it must be taken for what it is worth. Such suggestions are often most valuable when they lead the teacher to do something else. The only point is that whatever she does should be planned and definitely thought out, not mere haphazard, nor servile imitation. The specific lessons of this chapter were included so as to clarify and illustrate some general principles which seemed important. It is quite likely that a thoughtful teacher may disagree with the method of presentation here discussed, and if she does, her way is quite as apt to be right as that given above. In fact it is almost sure to be, for after all, teaching is an art and method largely individual or personal. We must never overlook, however, the importance of the principles involved in our teaching, and we should ever be ready to give a rational explanation of our methods.

CHAPTER IX

ARITHMETIC

Place of Arithmetic.—Arithmetic holds a unique position in modern elementary education. Despite experimental research and pedagogic criticism, this subject remains a sort of idol before which our teachers bow in reverential worship. In many schools, arithmetic still monopolizes the freshest, brightest morning period, hopelessly crowding out such minor subjects as reading, grammar, and science. When a pupil from another city applies for admission to a school, his grading is frequently made to depend almost entirely upon his arithmetical ability. If he fails to attain a certain average in the term examination in this one subject, he is often forced to repeat the whole term's work. Educators and the general public are both responsible for this condition. The former have laid great stress on the value of arithmetic as mental training, the latter have been particularly impressed by its utilitarian value. A detailed discussion of these and other claims will be necessary in order to give the teacher an attitude toward the subject which will insure aimful teaching.

Arithmetic as Mental Training.—Arithmetic has long been regarded—and the opinion is still rife—as

an excellent mental gymnastic. The doctrine of formal discipline has been wont to employ this subject as chief witness for the defense. Accepting this doctrine in the modified form discussed in Chapter II., there is much to be said in favor of the value of arithmetic as mental training, particularly in regard to the creation of an ideal of accuracy. The correction of a solution is in itself sufficiently disagreeable to serve as an inhibition on carelessness. Used as a text by the teacher and applied to similar situations in other subjects as well as to life, there will tend to be formed a morally tinged concept of accuracy. Again, the absolute distinction of correct and incorrect is perhaps emphasized more strongly in arithmetic than in any other subject of the curriculum. "Almost right" tends to identify itself with "wrong" in the pupil's mind. This furnishes a striking analogy to the absoluteness characteristic of morality. The appreciation of this analogy, however, cannot safely be left to mere unconscious assimilation by the pupil. It must be brought out with a definiteness as emphatic as possible.

The so-called discipline of difficulty need take but little of our attention. There is no doubt that the overcoming of difficulties indicates the possession of a strong mental fibre. It is by no means equally certain that such overcoming will produce this strength. Surely it is unwise to place obstacles in the pupil's path. Difficulties in sufficient variety and number will appear in the usual course. When it is argued that intrinsically difficult and dull exercises have pro-

duced strong mental types, it is perhaps but another way of saying that none but natively strong minds have been able to survive.

The training in attention, abstraction, and reasoning attributed to arithmetic is to be admitted merely so far as implied in the two ideals discussed above, accuracy and moral absoluteness. The teacher can aid, so far, for example, as attention is concerned, by showing its importance as a factor in the attainment of accuracy. Except in so far as the organization and fixing of ideas of relationship are included, as in grammar, it cannot be maintained that arithmetic trains either reasoning or abstraction. It seems, on the whole, that the value of arithmetic as mental training has been vaguely understood and greatly exaggerated.

Utilitarian Value.—To the general public, arithmetic makes a specifically utilitarian appeal. The parent is proud to know that schooling has enabled his child to compute the proper change out of a quarter when he sends him for a five cent cake of soap, or that he can determine the cost of five and a half yards of silk at ten cents a yard. The parent is not a pedagogue, and he attributes in a vague way similar practical functions to the entire arithmetic course. The public fails to realize the painfully static conservatism of modern educational practice. It is scarcely believable that business methods hundreds of years old are taught in many schools today. They have rooted themselves so firmly that eradication becomes a slow and painful process. Even when modern thought forces changes

in courses of study, teachers show a remarkable tendency to cling to the old practices. It occurs not infrequently that the theoretic pendulum swings back and gives to the old-fashioned immutable teacher apparent justification for her changeless methods. It is possible that the expression "Divine Profession" as applied to teaching may find some extenuation in the immutability characteristic of many teachers.

The outlook for a real utilitarianism is hopeful. Ever so much useless matter has been eliminated from recent syllabi in arithmetic, and will in course of time disappear even from the class room. This elimination has included many old-fashioned business methods, such as compound partnership and equation of payments, and also such technical matters as troy weight and apothecaries' weight whose application to practical life is narrowed to a few trades or professions. Much still remains, however, which could be wisely dispensed with. It is intrenched not only in tradition but also fortifies itself behind the vague ramparts of mental training. Much complicated work in absurd fractions, for instance, still forms a part of the course in worry. The ability to handle such fractions will not be required of more than one man in ten thousand, yet considerable time is still wasted on work of this character. For all practical purposes, decimals have supplanted fractions, and the school, in so far as it endeavors to make its aim utilitarian, should conform to the practice of the business world. Simple logarithmic tables would also constitute a welcome addition to the course in elementary mathematics. The applications of log-

arithms are so manifold that it would seem, even if only from the conventional standpoint, wrong to allow a child to quit school in total ignorance of this wonderful mathematical tool.

Courses in commercial arithmetic given in many business colleges attempt to approximate actual modern business processes. The elementary school might profitably follow their example. A knowledge of the proper way of making out checks, promissory notes, bills, receipts, etc., is a useful asset for the ordinary man or woman. There is absolutely as little excuse for the school teaching such forms in an antiquated way as there was for the "up-country" Pennsylvania farmer to continue voting, until a very recent date, for Andrew Jackson as president. It is not only easy but interesting for the teacher to acquaint herself with simple modern forms.

It is hoped that the above discussion will not convey an impression of the inutility of arithmetic. Much of the arithmetic taught in our schools today has really practical value, although probably the greater part has not. It is important therefore that the teacher should appreciate this distinction and although she is, as a rule, required to teach the letter of the syllabus, she should endeavor in every way possible to emphasize the practical applications of her teaching, realizing the fact that it is only in this way that she can give life to a subject frequently inanimately dull. Again, to the extent that every teacher should aspire to be also an educator, she must have a critical attitude toward courses of study in arithmetic, especially

toward those topics which, once utilitarian, are traditionally retained—static inertia being the most tremendous force in education—on account of their supposed disciplinary value. By formal and informal discussion, written and oral, the earnest teacher may help considerably in the rationalizing of the elementary course in arithmetic.

The Propædæutic Value of Arithmetic.—So far as preparation for higher educational work is concerned, arithmetic obviously has considerable value. The mathematics form a chain, whose initial and most important link is arithmetic. Equal importance, however, from this point of view, does not attach to all parts of the elementary course. Much, for example, that is avowedly utilitarian, is of no value for the pursuit of algebra, geometry, or the higher mathematics.

The portion of arithmetic which is of especial importance as propædæutic for higher work, relates almost entirely to abstract operations in number. To teach these adequately from the viewpoint of this paragraph, there is required a rather different method from that demanded by a purely utilitarian aim. From the latter standpoint, quickness and accuracy in the manipulation of figures is the desideratum. Such facility, though not undesirable, is by no means essential to arithmetic as the beginning of a complete mathematical course. Here there appears much more prominently the necessity of understanding the process; the pupils should be able to multiply numbers accurately if you will, but more than this they should have a clear grasp of the mathematical nature of mul-

tiplication. Arithmetical ideas and processes are to be developed and taught in such a manner that a foundation may be laid for mathematics in general.

The "How and the Why."—The above discussion of the value of arithmetic will establish a viewpoint for a difficult question which often confronts the teacher of elementary arithmetic, viz: In teaching this or that topic, shall I fully explain the reason for the process—the "why"; or shall I be content with securing proficiency in performing the operation—the "how"? The specific aim of any lesson—utilitarian or propædæutic—will exert considerable influence on the answer to this question. Even in those cases, however, where the value of a lesson is predominantly utilitarian, it does not follow that the "why" of a process is unnecessary. We must not forget the importance of mental organization both for the apperceptive grasp and for the usable retention of knowledge. There is, as a rule, no better set of associations to secure these ends than those mental connections which make for the comprehension of a topic. The necessity for drill and repetition is inversely as the strength and solidarity of such connections.

There are, however, some arithmetical processes, the demonstration of whose correctness is too abstruse for the elementary pupil. It by no means follows that the teaching of such operations should be deferred until the pupil is mature enough to comprehend the reasons for them. A fourth year child, for instance, who is compelled by an antiquated course

of study to reduce enormous fractions, should be privileged to employ the continuous division method of finding the greatest common divisor. The attempt to demonstrate this method to young children would be a pedagogical absurdity. The vast majority of us use watches with absolute innocence of their mechanism, so the old sea captain with no training in the intricacies of electrical science steers his course by the magnetic needle. These analogies apply, with diminished force however, to arithmetic.

We may perhaps safely generalize to this extent: The reason for an arithmetical process should always be given when its comprehension is well within the range of the pupils' minds. It will then help him to organize his knowledge and insure retention of the process. When, however, the reason for an operation is too intricate for the pupils' grasp, the demonstration should be omitted. In its place should be given proofs of the correctness of the result so as to inspire confidence in the minds of the pupils as well as to give them a method of testing the accuracy of their work. This forms a kind of specific demonstration, which should, however, be carefully distinguished from real mathematical demonstration.

Conventional and Rational Arithmetic.—A distinction, to some extent resembling that between arbitrary and rational spelling, applies to arithmetic. It will be discussed here briefly so as to fix these designations in the mind of the reader. The term "rational" may be applied to those parts of arithmetic in which reasons for processes are made clear to the pupils.

That twice three are six, for example, is a purely rational process. The term "conventional" is applied to such a fact as that there are twelve inches in a foot, or that the usual rate of interest is six per cent, etc. Many arithmetical operations contain both rational and conventional elements, e. g., such a problem as "Two feet are how many inches?"

The general principles underlying the teaching of rational arithmetic have been touched on above and will be more fully discussed later. Practically the same psychological considerations as were found applicable to the teaching of arbitrary spelling also apply to conventional arithmetic. The intensity of acquisition derived from interesting presentation combined with drill must supply the place of organized concatenations of reasoning. Practical applications of the knowledge attained will constitute an important factor of the fixing process. The interesting presentation will naturally take the form largely of objective work, which will also serve the purpose of rendering more obvious the relation of the knowledge to the living interests of the pupils. Liquid measure, for example, demands for its proper teaching that the children should be shown the actual measures, gallon, quart, pint, and gill and should also be given the opportunity of using them. That a quart equals two pints will thus become not a merely verbal association, but a real perceptive fact, the seeing and handling of the measures adding interest and at least a glimpse of utility.

Verbal methods of instruction in conventional arith-

metic show a persistency which is often discouraging to the principal who also happens to be an educator. Nothing but the conscientious application of thoroughly understood psychological principles will ever eradicate such ineffective teaching. The use of objective methods merely in obedience to orders of a superior authority is well nigh hopeless. Verbal methods of instruction will, however, probably endure at least as long as term examinations test only verbal retention. In preparing their pupils for such examinations, teachers too often feel that the time spent in objective work constitutes a roundabout method of securing a result, more easily attained by verbal exercises. They often fail to realize that the verbal result itself is most surely secured by the intensity of objective presentation.

Rational Mathematics an Abstract Science.—The use of objects in connection with rational mathematics differs considerably from its employment as a medium of conventional arithmetic. The concept of number is essentially abstract, and all real arithmetical reasoning involves number ideas more or less thoroughly divorced from the concrete. The influence of Pestalozzi has tended to obscure this undoubted fact. In developing the abstract notion of number, objects are necessary at first. A wise choice of varied objects assists in building up the idea. These objects, however, should not be so entertaining and striking as to distract the pupils' attention from the essentials of the number concept. Five chocolate cookies on each child's desk, for instance, just before the noon

recess, would be an unwise material equipment for developing the number five. Little sticks, pebbles, bits of chalk, etc., are decidedly more advisable. The use of any objects should be discontinued as soon as the teacher feels that the number idea is sufficiently grasped. One argument against the natural and otherwise innocent use of the fingers in counting is that nothing short of amputation constitutes a sure cure for the habit.

In both oral and written work, especially the former, mathematical reasoning is apt to be seriously impeded by an insistence on constant repetition of concrete denominations. In solving such a problem, for example, as "John had five marbles and found eleven more. He then lost eight. How many were left?", it is not only permissible but mathematically desirable that the pupil should respond in some such way as "Five and eleven are sixteen. Sixteen minus eight are eight. He had eight marbles left." The repetition of the word marbles in each case would be unpedagogical as mathematical training and stilted as a form of oral expression. In written work, as in written language in general, more formality may be desired. In the reasoning that precedes the written solution, however, the denominations may generally be omitted.

Self-Activity in Arithmetic.—The need of self-activity for the comprehension of arithmetic and mathematics in general is perhaps greater than it was found to be in the case of grammar. "Teach the pupils to think" is a maxim that applies with especial force

to arithmetic. This end can be attained only by a slow but sure laying of foundations. In the first place, the pupil must have thorough and absolute knowledge of the elementary sums, differences, products, and quotients. The thought processes involved in even simple problems are seriously impeded by any uncertainty regarding these fundamental elements. Initial work with objects, followed by drill, drill, drill, must fix these factors, although self-activity is necessarily brought into play in their comprehension. As a boy, the author sang the multiplication table day after day in concert drills. Whether pedagogically sound or not, he has never regretted this feature of his schooling. Promptness, as well as accuracy of response must be the goal of the primary teacher's ambition. So important is the attainment of this end that almost any moral means are justifiable. Recently, in some localities, the multiplication table has been greatly simplified by omitting the eleven and twelve times products. This is a well advised reform, although it necessitates an apparently longer procedure in multiplication and division by eleven and twelve. This longer procedure, however, applies rather to the space required than to the time consumed in these operations.

Once a sure grasp of the elementary results is secured, there are afforded various opportunities for self-active processes demanded by the uncertainty of the teacher's ejective knowledge, as well as by the necessity of mental organization. There is no doubt that the teacher's solution of a problem will differ

at least in speed and emphasis from that of the pupils. She may explain a problem never so well and still proceed too fast for some of the pupils, too slowly for others. Or she may lay the emphasis on elements which some understand thoroughly and omit it from elements which others fail to comprehend. Of course, much individual teaching will at times be necessary, but the wise private tutor as well as the teacher of fifty pupils must realize the importance of the pupil working out the problems himself. There are some teachers who pride themselves on their ability as instructors in arithmetic, whose procedure is fundamentally unpedagogic. In the event of a class failure, e. g., to solve a problem which they were supposedly prepared for, such teachers frequently administer a scolding mixed with a little sarcasm, and then fully solve the problem on the blackboard, clearly announcing the reason for each separate step. To this wasteful process they give the name explanation. When it is finished, they turn to the class, generously offering to repeat the "explanation" if any point is not understood. Of course, no self-respecting pupil could make such a request without abject humiliation and implied criticism of the teacher. The class politely assumes an attitude of reverent gratitude, and the teacher pats herself on the back complacently. Perchance, the same problem is immediately assigned with a mere change of figures. Nearly all the pupils now solve it correctly and the teacher's benediction closes the service!

The essential fault of the above method is seen as

soon as the true nature of explanation as a form of deductive reasoning is understood, and when it is borne in mind that arithmetic is a deductive science. The former point was referred to in Chapter II. Real explanation involves the inclusion of the fact to be explained under some general principle or law already in the pupil's mind. The detailed solution of a problem, as described in the preceding paragraph, may contain practically no true explanation at all. The proper course for the teacher whose class has thus failed is, first of all, to determine the cause of such failure. It may be found that most of the pupils have failed to grasp some principle involved. In such a case, explanation must await the development of this principle. Simple exercises, in which the principle stands out prominently, should then form the preparatory stage for reattempting the solution of the problem. Or it may be that while the necessary principles are sufficiently understood, there is a failure to appreciate the particular case as an application of the principle. In such an event the wise teacher will find it advisable to give the class practice in a simple series of graded applications of the principle, much of the work being oral.

This self-active procedure may be made clearer by an illustration. Suppose the class is required to ascertain how many yards of paper, two yards wide, are necessary to cover a wall of certain dimensions. If the teacher finds, upon examination of the solution, a general failure to grasp the principle that the length of a rectangle can be secured by dividing

its area by its width, she will proceed to develop this principle by means of objective illustration, drawing upon the board simple rectangles, five inches by two, eight by three, seven by two, then by a series of questions leading the pupils to state the principle themselves. The universal application of the principle may then be stated in the form of a rule; e. g., area divided by width equals length. Or the class failure may be due, not to ignorance of the principle, but to failure to grasp the fact that the paper cut in strips actually constitutes one long rectangle, two yards wide. This can be led up to by similar objective illustrations, a series of simple rectangles of identical width and length being drawn upon the board, and then the series redrawn as a continuous rectangle with vertical lines equally dividing it into the requisite number of strips. Two or three lessons of this character, first oral, and gradually increasing in difficulty, may be necessary before the original problem is again attempted. Such self-active work may seem prodigal of time to the ordinary teacher, but its psychological soundness and practical results in increased pupil efficiency render it in the best sense economical.

Arithmetical Knowledge as Power.—The reforms of modern courses render it increasingly possible to employ practical applications as an effective means of fixing knowledge of arithmetic. Whatever the pupil can turn to some useful account touches his living interests and thus holds his attention. Not only the process itself, but everything connected with it ac-

quires a firmer hold on the pupil's mind. The author can never forget a lesson in the chemistry of putrefaction which is worthy of repetition in this connection. The teacher had described Pasteur's investigations proving the necessity of oxygen to the life of putrefactive germs and the application of this discovery to the canning of meats and vegetables. He explained the method of canning and urged the importance of the total expulsion of air before sealing. When this expulsion has been imperfect, the ends of the can are likely to bulge, when perfect, they are often concave. "Now," added the instructor, "when your mother sends you for a can of tomatoes, you know what kind to pick out!" I doubt whether any boy of that class has ever forgotten the principal facts of that lesson. The possibility of practically applying arithmetical knowledge should exert a constant influence upon the teacher in her selection of problems. At the same time, correlation may often be secured with other curricular subjects, e. g., the number of days Columbus consumed in his first voyage and the distance traveled form interesting data for a problem in ascertaining his average daily distance. A similar average may be obtained for a modern ocean liner and the ratio of the two in fraction or percentage be determined. The percentage of the various ingredients of alcoholic beverages may be used to effect a similar correlation with temperance hygiene. The teacher could profitably record in a note book a series of such problems, either original or culled from various sources, which would form a splendid asset

for her arithmetical teaching. In addition, problems involving actual measurements of school room, building, and yard will suggest themselves to the thoughtful teacher, once she has realized the all important principle of knowledge as power with all its pedagogical implications.

The Stage of Preparation.—The discussion of the preceding paragraph has a valuable application to the step of preparation. There is perhaps no better way of securing a state of expectant attention than by creating in the mind of the pupil a felt need for the instruction. In some educational discussions, this device is included in the statement of the aim. However considered, it is of supreme importance. The lesson is interestedly awaited and the pupils' curiosity is aroused. The resultant mental attitude is rendered vitally receptive, as apperceptive systems are vividly formed, lacking only the complete element which is to be supplied by the coming lesson.

The question of the extent of the knowledge already possessed by the pupil is as important for instruction in arithmetic as in grammar. What the teacher has the right to presuppose must be borne definitely in mind. If certain parts of this previous knowledge are of particular importance in connection with the new work, these parts should be actively recalled so that the vividness of recency may add its influence to the ideas.

Short Cuts.—As could be gathered from the foregoing discussion, abbreviated processes of work in arithmetic may or may not be desirable. If the aim is the

comprehension of a general rule, our previous psychological considerations will have proved conclusively "The more haste the less speed." When, however, the aim is narrowly utilitarian, and the demonstration of the process unessential or intricate, "short cut" methods are permissible. Even here it may sometimes happen that the teacher can ill afford to dispense with the retentive value of mental organization. In teaching the six per cent method of computing interest, e. g.,—"Multiply dollars by days, divide by six, point off three decimal places," a simple algebraic derivation of the rule is helpful. So in multiplying by twenty-five—add two ciphers and divide by four. The latter rule is a good illustration of a short cut method which is often useful on the occasions where rapid mental calculation is demanded. The trouble with many so called "short cut" methods is that they add one other topic to an already overburdened course. They are justifiable only on a strictly utilitarian basis.

Arithmetical Analysis.—The designation "Arithmetical Analysis" is often narrowly applied to a rather formal method of solving problems using the unit as a basis. The term mental arithmetic was frequently given to the purely mental solution of such problems. This designation was not clear nor descriptive—all mathematical solutions are mental—and it has gradually gone out of use. Together with the obsolescence of the term has passed also its vogue, a result due, as might be expected, to the extremes to which the practice had gone. Pupils were often required to re-state after a single hearing a complicated problem and then

solve it promptly without the aid of any written work. The believers in formal discipline—and their name was legion some decades since—urged as justification for such exercises training of attention, memory, and reasoning. At the same time, it was held that they afforded an excellent opportunity for training in precision of language. These claims may all be accepted as true but in a sense so modified from that in the minds of the original champions as to amount to an entirely different thing.

Written analysis where the numbers are too large for purely mental computation, and oral analysis of simple problems form excellent means of mathematical training. The analysis, however, must not always base itself on unity as one, but rather on that unity which amounts to common measure or unit of comparison. When the numbers to be compared are, e. g., three and five, one becomes the natural unit; when, however, the numbers are nine and twenty-seven, nine is the natural unit. The old “mental arithmetic” did not give sufficient attention to this very helpful distinction.

There is but little doubt that arithmetical analysis holds its place in the modern curriculum on account of its disciplinary value. To the extent that we interpret this as the building up of ideas of relationship, there can be no quarrel with this view. Practically, however, the actual appeal of many problems to the puzzle instinct has kept up the pupils’ interest in such work, while the so-called “discipline of difficulties” has supplied the strongest argument for the teacher.

There is great danger of allowing such disciplinary work in "pure" arithmetic to go to an extreme. The adjective "pure" as applied to mathematics in general too often signifies a kind of subject-matter which, so far as the pupil can see, has no application to anything. No wonder that teachers find this subject so difficult to teach and that so many pupils fail. Mathematical curiosity per se does exist, but it is comparatively rare. When the average pupil hears that two-thirds of the lid weighs four-fifths as much as the kettle, his wildest flight of imagination fails to reveal to him a situation in life where this computation would be necessary, and like the naïve country lawyer, he is disposed to say "I don't have to prove it. I admit it."

Kept within reasonable limits, and given real utilitarian applications, arithmetical analysis is a valuable part of the arithmetic course. It represents a kind of reasoning which must frequently be employed in the solution of problems. Its value stands out most conspicuously in oral exercises. Used in written work, the teacher should demand the formality characteristic of written work in general. Conciseness of statement must be insisted upon. It is perhaps sufficient to refer casually to the fact that, so far as training in written language is concerned, there are many subjects which could be named at random which form much more felicitous themes than arithmetical analysis.

Oral Arithmetic.—By oral arithmetic, I mean the dispensing with written aids in the solution of problems. The pupil hears the problem and thinks out the solu-

tion which he expresses or recites orally. This has the advantages and disadvantages of all oral work. If handled properly, the former outweigh the latter. One peculiar advantage of oral arithmetic consists in the fact that the teacher is restricted to the use of small numbers, and thus the attention of the pupil is concentrated upon the principle involved. There is probably entirely too little oral recitation of arithmetic in our schools today. Although the analogy is not thorough-going, oral arithmetic has about the same relation to written arithmetic that oral language has to written language. Much arithmetical work can profitably be taken up orally at first. The symbolism of mathematics is however much more abstract than that of ordinary language, so that a great deal more objective work is necessary. Beyond possibly the first four or five numbers, the child has no definite mathematical vocabulary whatever. The teacher therefore cannot rest satisfied with the association between the visual and oral symbols as in the case of the simple sight words of primary reading.

What is sometimes called rapid arithmetic has its place in the curriculum on account of its utilitarian value. The vocational man must not only have accurate knowledge of processes like three-eighths of forty but he should be able to give an answer promptly. Requiring rapid answers to simple problems in the class room is a means of securing such promptness. This result is not to be accounted for by the mysterious training of any mental faculty, but is due to the drill furnished by such exercises, and the creation

of an ideal of prompt, attentive work, aroused by the teacher's frequent demand for quick responses. It is this latter consideration which is by far the most important. This psychological analysis may seem pedantic to the ordinary reader, but it is really a vital factor of the teacher's attitude toward her work. The teacher must be conscious of the mental processes of her pupils, if she hopes to aid their development.

Specific Method.—As it was found desirable to conclude the chapter on grammar with specific applications of the general principles discussed, so the same plan will be followed in this chapter. The reader will pardon my repetition of the caution previously given. A suggested method is not like a paper pattern which a dressmaker uses in cutting out a dress. It is rather an inspiration to the teacher to have a definite aim and to think out carefully the means best adapted to its attainment. No two real teachers will use identical methods, nor will the same teacher use the same method at all times.

The Teaching of Square Measure.—In the teaching of square measure, the aim is absolutely utilitarian, so that from the very beginning its practical applications should stand out clearly. It is conventional only in so far as it is derived from long measure, its relation to which however,—with the exception of the acre—is purely rational. Long measure is one of the pre-suppositions of the teaching as is a knowledge of the fundamental operations, including some work in fractions.

The stage of preparation will consist largely of

creating an attitude of expectant attention based on the need for the knowledge. It will also include a review of long measure with especial reference to units of measurement, i. e., the comparison of lengths, first by the pupils guessing or estimating the result, and then verifying by the use of the unit yard, foot, or inch. The name unit and its use especially for comparison should be brought out emphatically. With this concept clearly in mind the pupil is ready for the teaching of square measure, which should for the first few lessons not go further than the unit square yard.

Two pieces of board, one seven inches by four inches and the other thirteen by two might be shown to the class and the question asked which would require more paint to cover its surface (The word "surface" has probably been learned in connection with geography. Its importance in this connection might justify the teacher in making it the theme of a preparatory language lesson as was suggested in the last chapter in the case of the word "passive"). The pupils will soon see, if properly questioned, the necessity for a unit of comparison, and they are now ready for the presentation of these units.

The convenience of the square as a unit can be developed by the teacher showing the difficulties attending the use of circle, triangle, or other figures. It then remains to apply the linear units to the sides of the square inch, square foot, and square yard. Dividing the two rectangles above mentioned by horizontal and vertical lines upon the blackboard will form an excellent objective presentation of the unit square inch

and also of its use in surface measurements. Similarly for the square foot and square yard, the pupils easily being led to derive the numbers 144 and 9 by means of dividing a square foot into square inches, and a square yard into square feet.

The applications of square measure are too obvious to require detailed mention here. The utilitarian value which often attaches to the ability to estimate a length or distance is less important in the case of square measure. We are not so frequently called upon to estimate surfaces as lengths, and even when we do so, we generally base our estimates upon the linear dimensions. An exception is furnished by the unit acre especially in rural communities. Here the utilitarian and conventional knowledge of this unit may assume considerable importance.

Decimal Fractions.—The teaching of tenths, hundredths, etc., in decimal fraction form, presupposes the comprehension of the ordinary fraction, as well as knowledge of our system of integral decimal notation. Besides this, it will be found, in the United States at least, that acquaintance with our money system, reading and writing such amounts as \$22.58, e. g., will form a useful presupposition. The latter case is one of the few instances where a definitely utilitarian part of arithmetic is taught because of its great practical value before the pupils are old enough to understand its theory. The aim of all the work in decimal fractions is obviously utilitarian.

Of the above presuppositions, the decimal character of our integral notation is the most important. This

should be an emphatic part of the stage of preparation, the pupils' attention being directed to the relation of units to tens, tens to hundreds, etc., as well as to the relation as first taught, i. e., tens, hundreds, etc., merely as multiples of the lower place values. This relationship can be drawn from the class readily. They know that 100, for example, is 10 times 10; their work in ordinary fractions will have been sufficient to make them see that conversely 10 is one tenth of 100, and so with the higher notations. The aim of this part of the teaching is to have the pupils clearly grasp the fact that each number represents a value ten times as great as its right hand neighbor, and one tenth as great as its left hand neighbor. Reference to their knowledge of United States money notation may now be made and they can see the application of the above to an amount like \$875 where the unit is one dollar. Then write upon the blackboard \$875.57. They can read this and now are in a position to apply the theory of decimal place value to the right of the decimal point, a point the significance of whose name will have been explained in connection with integral place value, and the placing of which will have been insisted on in all their exercises in money notation. The pupils will readily see that the first place to the right of the point represents dimes or tenths of dollars, while the next place represents cents or tenths of dimes. Tenths of dimes can readily be shown to be hundredths of dollars. Before going on to three or more decimal places, it would be a good plan to give considerable varied drill in reading and writing deci-

mals of two places where other units than dollars are used. This is particularly important when we recall the manner of concept formation. Practically all the child's perceptive experience has connected the decimal point with money notation. It becomes necessary therefore to remove this element from the connotation leaving only the fractional idea. Soon the two place idea must also give way to one, three, four, or more decimal places. This step is facilitated by the first part of the preparatory work in integral notation, the only addition required being the grasp of one tenth of a tenth as a hundredth, one tenth of a hundredth as a thousandth, etc. This point can be made clear by performing the actual operations with fractions. These practical operations also serve to explain the necessity of placing the decimal points directly under each other in addition and subtraction, and of adding the places for multiplication and subtracting for division. These fundamental operations with decimals furnish an excellent illustration of the "why" helping to fix the "how." Nothing now remains but drill in utilitarian problems to fix the knowledge. The economy of decimal fraction notation should be emphasized for the class by having one set of pupils perform an operation like 75.238 times .37 in the fractional way while the remainder of the class perform it by the use of decimals.

Division of Fractions.—The teaching of division of fractions will be considered because it presents a nice question for the teacher to decide, and shows the importance of a clearly defined aim in education. From

a narrow utilitarian standpoint, it might seem sufficient merely to tell the pupils that they shall invert the divisor and proceed as in multiplication. Novel or striking presentation followed by a large amount of drill would then probably suffice to fix the important point, viz., inversion of the divisor. The author has a distinct recollection of one teacher who fixed the process for a class of boys by telling them that division of fractions was something like a fight, "You hit the other fellow below the belt and double him up!" What this presentation lacked in elegance it made up in emphasis. Emotional intensity of impression rendered one hearing of Romeo's voice sufficient for Juliet's recognition; and the same influence, though less potently employed, proved efficacious for this arithmetic class. At any rate, the teacher, either from thoughtfulness or thoughtlessness—I really do not know which—avoided any attempt at demonstration of the reason for inverting the divisor.

As soon as either the propædæutic or disciplinary aim of arithmetic attains prominence in the mind of syllabus maker or teacher, the teaching of division of fractions assumes a very different aspect. Proficiency in performing the operation now becomes secondary to comprehension of the underlying reasons of the process. The method of teaching then required will have a vital bearing upon the place or grade in which the subject shall be taught, as far greater intellectual maturity is required to demonstrate the process than merely to use it. Problems involving division of fractions can readily be deferred until pupils are old

enough to comprehend the demonstration, if the latter method is to be employed.

The presuppositions here are obviously a knowledge of the fundamental integral operations of fractions and of their multiplication. It would be a good plan to emphasize that aspect of division sometimes called partition, and considerable oral drill might be given in construing such problems as "eight divided by two" as "how many two's in eight?" This point of attack constitutes the easiest way of approaching fractional divisors. The pupils can then be led to grasp the solution of a simple problem like "eight divided by one-half," i. e., "how many halves in eight?" Self-activity is the only rational method here. The preparation with integral division will enable the pupils to solve readily problems like the above where the dividend is an integer and the divisor a simple fraction with unity for numerator. Objective helps will serve to vivify the instruction. The next step should not be taken until this kind of problem is thoroughly understood by the entire class. When this has been accomplished and the pupils appreciate that the process actually consists of multiplying the dividend by the denominator of the divisor, they are ready to proceed to simple divisions with numerators greater than unity, for a while, however, not going beyond the number six. They can now be led to grasp the fact that if one-third is contained twelve times in four, two-thirds will be contained but half as many times. Making haste slowly and at times objectively, they can be led to formulate for themselves the rule

that they multiply by the denominator and divide by the numerator, and will readily see that this amounts to inverting the fraction and proceeding as in multiplication. When and only when this is fully comprehended is the teacher justified in permitting such written solutions as $8 \div \frac{2}{3} = 8 \times \frac{3}{2}$. The transition to fractional dividends can best be made as an application of the rule already formulated. The conscientious teaching of this subject as just indicated necessitates a grasp on the part of the teacher of a value of arithmetic other than utilitarian. Otherwise the path of least resistance will naturally lead her to the mere telling of the "how" of the process, depending for the fixing upon drill.

Elementary Mensuration.—Most courses in arithmetic include some practical applications of geometry, generally called mensuration. Some of this work on account of its obvious simplicity and utilitarian value is taught early in the elementary course, while much is left for the seventh and eighth school years. The tendency of recent "downward" revisions of arithmetic courses has been to eliminate everything from mensuration which could not plainly be justified by its practical application to the needs of after life. This amounts to a tacit disregard of the propædæutic value of the subject, a value moreover which was scarcely justifiable when we consider the extent to which the charm of novelty in taking up a brand new subject is vitiated. The reform in mensuration courses has its plain lesson for the teacher, who should make the work just as concrete and practical as she possibly can.

Demonstration of such rules as finding area of rectangles and triangles and volume of prisms suggests itself as a good method of fixing the processes by means of rational mental organization. In the case of the circle, cylinder, cone, and sphere the elementary school pupil may be interested in "approximate" demonstration, but must take the rules as pedagogic dogmas, the real proof of which will be forthcoming in geometry, an interesting science which he will have the opportunity of studying in the high school. So with the process of square root and the relationship of the sides of the right triangle. Confidence in the correctness of these processes based upon proof where possible, e. g., in square root, or upon tentative inductions, e. g., in the right triangle, must take the place of rigid demonstration.

Mensuration is primarily an objective study and the objects should be practically always in evidence in the teaching. So in the various applications of the rules, abstractness must give way to concrete work in the room, building, yard, and home. How many gallons of water are contained in that particular tank on the roof of the building opposite? Let the pupils get the dimensions themselves if practicable, or at least find out what they are from some one who knows. One exception to the concreteness of the work may be mentioned. It will be recalled that in discussing the abstract nature of real mathematical thinking, objection was made to the constant repetition of denominations as impeding thought processes. This objection applies to the abstract number work of mensuration

as well. For example, teachers are divided in opinion in regard to the method of stating the facts in computing area from length and width. Some would require the pupils to say, e. g., $8 \text{ sq. ft.} \times 2 = 16 \text{ sq. ft.}$; others favor the rather irrational procedure of $8 \text{ ft.} \times 2 \text{ ft.} = 16 \text{ sq. ft.}$ The former is certainly the better plan in the beginning as in the teaching of square measure. The best mathematical plan perhaps is merely to require the pupils to remember that the dimensions must be of the same denomination, feet by feet, inches by inches, etc., and then to have the entire process abstract until the product is determined, thus in the above problem $8 \times 2 = 16 \text{ sq. ft.}$ Similarly $16 \div 2 = 8 \text{ ft.}$ This constitutes real mathematical thinking and there is no good pedagogical reason to substitute for it any troublesome circumlocutions.

CHAPTER X

GEOGRAPHY

Nature of Geography.—Geography has been an important subject in the educational systems of various peoples in all ages. From the earliest times the habitat of human beings has been made a subject of scrutiny and hypothesis. A knowledge of his own and near-by localities was necessary to the most primitive savage. Even lower animals may be said to possess some sort of geographic instinct and knowledge. For many of them the sense of smell furnishes the observation and memory data, which humans derive mainly through sight.

Geography, in its modern development, is a mixed science. It presupposes or includes in its own elementary treatment various other sciences, such as mathematics, history, politics, zoology, botany, chemistry, physics, and geology. This inclusiveness and wide range of geography lead us to make four divisions of the science, called respectively mathematical, physical, commercial and political geography. These four terms are perhaps sufficiently descriptive without further explanation.

Utilitarian Value of Geography.—As indicated in the above paragraph, geography has a considerable utili-

tarian value. "This is the earth upon which we live" was the first sentence of a text-book which the author studied as a boy; and live upon it the human race probably will for many ages to come. It behooves us therefore to become as intimately acquainted with our earthly home as may be necessary. Finding one's way easily to a desired destination is an important accomplishment and one that must be learned. Geographical knowledge is essential to the attainment of this proficiency, whether it be exemplified in a primitive localization or orientation in a wilderness through the help of the stars; or finding one's way to the Victoria Station in London and taking the proper train for Dover. So far as this kind of geographical knowledge is concerned, it is obvious that localities of various parts of the world are not of equal importance. Knowledge of the home town or village, the neighboring counties, the nearby states, the nation, are, in just this order, valuable to the American boy or girl. The more remote the place, the less justification for detailed study, so far as this narrow utilitarian aspect is concerned. The exact trend of the Himalayas or the states drained by the Congo are almost negligible from this point of view. Specific geographic study is often a necessary preliminary or accompaniment of extensive travel. This must await the individual need. The schooling of the average boy cannot definitely take into consideration the probability of foreign itineraries, at least not to the extent of using Baedeker as a text-book!

There are, of course, other utilitarian aspects of

geography besides locality knowledge. Usually the most important consideration is not how to get to a place, but what place to get to. It is difficult here as everywhere to make a distinction between utilitarian and happiness values. We may say, however, that a man's choice of a locality on the basis of its productions, inhabitants, or occupations with a view to a profitable outcome illustrates a strictly utilitarian value of the study. The tremendous commercial competition of the nations in modern times emphasizes the importance of geographical knowledge along industrial lines far beyond the narrow study of one's own locality.

Happiness Value.—As indicated in the above paragraph and in Chapter II., the distinction between happiness and utility is difficult to draw. An illustration would perhaps be more to the point than any academic splitting of hairs. If a man goes to Munich because he knows that as a toy manufacturer he can get helpful ideas in that city, his geographical knowledge has become of utilitarian value. If, on the other hand, he travels to the same place because of his fondness for art or music, his knowledge exhibits its happiness value, a value which the teacher can ill afford to neglect. To arouse an interest in the world and its people thus creating a desire for travel and some ability to appreciate what one sees while traveling becomes a highly important part of the geography teacher's work. She will be the better equipped to accomplish this end the more extensive have been her own travels and geographical reading, the inspiration

of the former, however, far outweighing the assistance of the latter.

Conventional Value.—It is obvious that a considerable conventional value attaches to geography, which like the utilitarian value, varies inversely as the distance. Surely a child must be expected to know the principal streets, buildings, industries, etc., of his own city. Too often, however, visitors from distant parts first acquaint natives with their own interesting environment. The conventional value of knowledge of remote localities is largely proportional to their historical or literary significance or striking characteristics. Palestine, the Isle of Man, St. Helena, the Coliseum, Niagara Falls, Vesuvius illustrate bits of geographical knowledge which one must possess to escape the ignominy of being regarded as an *ignoramus*. So far as present day events are concerned, the modern newspaper, with its wealth of illustration and maps, has relieved the school of some of its task. The teacher must ever bear in mind, however, the conventional importance attaching so strongly to geographical events near in place and time.

Propædæutic Value.—The nature of geography as a mixed science furnishes a foundation on which the science work of secondary education may rest. Particularly geology and physics find a large field in the elementary course in geography. Similarly the industrial and commercial aspects of the work prepare the way for the more intensive courses in commercial geography now being given in many of our high schools. The scientific implications of geography of-

fer frequent opportunities for the teacher to remind the pupils that this or that fact will be more fully elucidated when they get to the higher schools under botany or chemistry or astronomy, etc. Such reminders accompanying interesting experimental or other objective work may easily become the determining influence in deciding for a child that he continue into the high school instead of going to work. Geography, in its propædæutic aspect, thus becomes a large inductive field which will form an apperceptive basis for the generalizations of scientific work in secondary education.

Moral Value.—The Herbartians who scrutinize every subject with a view of determining some moral aspect dwell with considerable emphasis upon the value of geography. There is much truth in their contention that geography properly taught has considerable moral value. It is however only one of the several values here discussed and by no means overshadows the others. The inter-dependence of mankind, the need of one for the other, is an idea of supreme moral importance. The grasp of mankind as one large family, all working together for the attainment of a better material and spiritual world, gives a moral viewpoint enabling one to understand the deepest philosophical and religious truths of the ages. Rich opportunity is afforded the teacher to lift her pupils from their natural egoism up toward a noble altruism. The vivid picturing or describing of coal miners risking their lives for our comfort, of fishermen near the treacherous banks, stokers deep down in the ocean freight ship,

must, if properly presented, awaken a responsive thrill of gratitude. Such teaching warms the very heart. From this point of view, a copy of Millet's famous *Angelus* or *The Man with the Hoe* is far more than an artistic wall decoration. It is objective geography, stressing, it is true, the emotional and moral sides of the occupation of agriculture. The obverse side of the consideration of what the world is doing for us becomes the consideration of what we can do for the world, thus bringing out the need for active personal industry. It is said that ex-president Roosevelt always thanks the engineer who guides the locomotive of his train. Such thanks should always be felt even when not expressed. The mutuality of commercial relations has an important moral bearing. The storekeeper who displays his wares in the shop window primarily perhaps designs his own profit, but the passer-by who needs these wares is grateful for their display. The gratitude of the salesperson receiving the purchaser's money demands the reciprocal gratitude of the purchaser for the opportunity of securing the goods. The physician, the missionary, the lawyer, the explorer all work for humanity, and a recognition of this fact is necessary to the pupils' proper moral attitude. Let the child but consider in some detail the complexity of the process necessary to the production of some of the most common useful objects and he will be nearer to a view of humanity as a working whole.

Geographical Concepts.—The consideration, in the last chapter, of mathematical ideas, led us to lay em-

phasis upon their essentially abstract nature. Objective work formed, as it were, a kind of crutch, which was to be thrown away as soon as possible. The same point of view is by no means applicable to geographical ideas. Geography is a concrete science, and in the elementary course, at least, and perhaps higher, the instruction can scarcely be made too objective. Text-book study of geography tends to degenerate into mere verbalism. Even map study, improperly handled, will not supply the needed concreteness. The superintendent who asked a fifth year class why New Hampshire was colored red on the map and Vermont green, is said to have received the response, "Because the color of the ground is different." This may be a facetious exaggeration, but all geography teachers are aware of the misunderstandings of pupils trained verbally or by text-books merely. The author, perhaps below the average of his class in brightness, had an idea that the Nile River flowed up and he frequently wondered, in a vague way, how it managed to overcome the force of gravity. Nevertheless, in the lesson, he could recite as glibly as the next one the exact source, course, etc., of the river. The nature of geographical concepts makes it advisable to employ the type method to a great extent. In teaching volcanoes, for instance, it is a good plan to take one typical and interesting volcano, such as Vesuvius, and explain its structure, activity, and interesting historical eruptions thoroughly. Out of such a lesson will spring a connotation which can then be attached to the term volcano, and give to it the picturesque reality demanded by real geographical

instruction. The same result may be attained inductively, but not with such effectiveness.

Geographical Definitions.—What was said about the function of definitions in grammar applies, to a considerable extent, to geography. Recognition of the denotation is the important factor, and definition is desirable in so far as it helps toward this end. The definitions of geographical terms are, however, more easily comprehended, being far less abstract than those of grammar. Besides, as a propædæutic to high school work in science, precision of definition helps to create an ideal of the accuracy essential to scientific method. Such work should, however, be deferred until the seventh or eighth school years, and should never, except in very provisional form, be required in the early years. Provisional definition is more necessary in geography than in grammar, because there is not the same richness of mental content in the former subject as in the latter. A child habitually uses nouns and verbs correctly long before he knows these terms, but isthmuses and continents necessitate instruction in both subject matter and terminology. One result of this difference is that the Socratic method is not applicable to nearly so great an extent.

Where the denotation of a geographical term is quite narrow as in the case of ocean or continent, exhaustive definition has no place in the elementary course. The pupil is not sufficiently mature to profit by or even appreciate the nice distinctions made by scientific geographers. That there are five oceans, to appreciate the fact that they are large bodies of salt water, to know

their names, and to be able to point them out promptly on a map is certainly sufficient knowledge of this subject for an elementary pupil. Similarly "continent" whether taken as having a denotation of two, three, or six land masses, needs but brief description and accurate recognition. In many parts of elementary geography the wise teacher will depend on realistic description rather than upon definition.

Mental Organization of Geographical Facts.—Perhaps no other branch in the curriculum affords such plentiful opportunity for the apperceptive organization of its subject matter as does geography. The discussion of the question as to how many things can be attended to at one time applies with especial force to geography. The natural interrelations of climate, productions, occupations, and civilization, for example, must become mentally related systems of knowledge for the pupils. It would constitute an unpardonable pedagogic waste to teach the river systems of a continent completely and then, at a later time, to teach its surface as a distinct lesson. Thus improperly taught, the pupil has two mental systems instead of one. Pedagogically connected, such groups of knowledge make for a more thorough retention, as the two groups mutually reinforce each other. The thoughtful teacher will be constantly on the lookout for such means of unifying the pupils' knowledge of geography. In this kind of work self-activity can and should come into play. What a river is may have to be simply told to the pupils, but why the Mississippi, for instance, flows south should be drawn from the pupils on the basis

of their previous knowledge of the surface of the United States. Similarly, the location of the great eastern cities of this country can be developed in an interesting way on the basis of data, both historical and geographical.

Objective Methods.—As previously indicated, most of the geographical instruction of the past and much of that of the present was characterized by a verbal formalism deadening alike to interest and real comprehension. It is probable that one could walk into a modern school today and find a pernicious teaching of rivers, for example, taking some such form as the memorizing of verbal descriptions of their courses, from note book records dictated by the teacher. So far as the map is referred to at all, its effect is nothing more than the association between such verbal description and a thin black snaky line with a printed name, a line suggesting neither swimming, wading, nor anything at all wet. Similarly cities tend to remain mere dots, mountains caterpillar-like formations, etc.

But little thought is needed to show the futility of such empty, verbal teaching. Concreteness is the very soul of real geographic knowledge. The best way to secure this concreteness is obviously to acquaint the pupils with the actual places or facts to be studied. Observation of a city, river, industry, etc., wherever possible, is the best method. If it were practicable, a traveling geography class would be ideal. A wealthy youth, accompanied by a wise tutor, can secure his geographical knowledge in this way. It is, of course, manifestly impossible for a New York or Philadelphia

public school teacher to take her class to Egypt when she takes up the study of that country. But she can take her pupils on various geographical excursions, to zoological gardens, botanical collections, museums, mills, factories, etc. where actual observation may help to lay an important perceptive basis for their knowledge. Or she can bring various objects and products into the school room, when their size and accessibility permit.

The difficulties attending geographical excursions make this excellent form of instruction less frequent than would be desirable. Boards of Education, through lack of pedagogic insight, tend to discourage this interesting method by permitting class excursions far too seldom as well as by withholding needed financial aid. The teacher also is apt to feel discouraged by the tremendous responsibility of the physical and moral supervision of forty or more children. These difficulties can be overcome, if the principal and teachers possess the right spirit, by arranging for the taking of a class in two or three sections or groups, and by securing the cooperation of some interested parents of the community. In every case, the teacher should first go over the ground thoroughly by herself and determine on a specific plan or campaign of observation. She should also realize the importance of preparing her pupils for the trip, not telling them so much as to take the edge off their curiosity, but just sufficient to render them appreciative and receptive. The excursions should be supplemented by live oral recitation, to be followed profitably by a formal writ-

ten exercise, based on blackboard outline of the salient points worked out jointly by teacher and pupils. Written exercises, invariably following excursions, may easily become burdensome and give to an otherwise pleasant occasion an association of a disagreeable, inhibitory character.

Where the real object cannot be brought before the pupils' observation, either by excursion or in the class room, models and pictures should be used. Care must be taken that they are accurately interpreted particularly as to size. Pictures should be both typical and realistic. To secure the former aim, line drawings are usually far more effective than halftone reproductions of photographs, where the obtrusion of unimportant detail is frequently unavoidable. Every school should be equipped with a lantern, and abundant sets of interesting views. A central library of such lantern slides should be in the possession of every school system which pretends to real educational modernness. As the process is cheapened and made safer for school room use, the moving picture will become a wonderful means for teaching geography. Its educational advantages have already been recognized, and its use is bound to increase greatly in the next decade.

In all such pictorial work, care must be taken that the showing of views shall not degenerate into mere diversion. The vogue of the illustrated lecture is attended with dangers in the school as well as upon the public platform. A picture is an illustration, a

perceptual element of the concept. It must always be subordinated to the system of organized ideas which it is intended to vivify. Good verbal descriptions, accompanied by active questioning of the pupils, is far superior to spiritless showing of pictures.

Home Geography.—It is generally conceded that the first study of geography should base itself on observation and description of the home environment, the city or village in which the children reside. Such initial work furnishes a rich field of perception out of which can be developed in due time the necessary concepts. Apart from this psychological consideration, however, an important utilitarian aim is also attained. A definite knowledge of home geography is a most useful acquisition. The nearness of the surroundings make excursions desirable and practicable. If the town is situated on a river, the pupils should be taken in a boat for a considerable ride, their attention being directed to objects of interest, the shipping, docks, tides, etc. Similarly if the school is near a mining region, a visit to the mines with competent guides is manifestly important. Like opportunities may be afforded in certain communities for the direct observation of agriculture, grazing, commerce, and manufacturing. The industrial processes form perhaps the most important factor of this observation work. Actual perceptual knowledge of the processes involved in the making of some simple household article broadens our ideas and deepens our respect for labor and laborers. After all, life is at least two dimensional, and should be meas-

ured in breadth as well as in length. Peculiarly significant for their mental broadening is the human element.

A primrose by the river's brim
A yellow primrose was to him
And it was nothing more

applies with much greater force to artificial than to natural objects. One who has followed the making of a cannon from the cutting of the wooden pattern, through the casting, up to the last finishing touches will see ever so much more when he looks upon a cannon than one who is ignorant of these processes. Work of this character may well claim a considerable happiness value. Apart from its obvious utilitarianism, therefore, home geography is particularly important as supplying the perceptive foundation for this deeper and broader knowledge.

Map Study.—The geographical map stands, as it were, between pictorial and verbal description. Although more symbolic than either, its symbolism is quite effective, as it appeals to the eye and enables the pupils to get a simultaneous grasp of numerous details. The principal danger of map study is, as in the verbal study, that it is apt to remain a mere symbolism, representative in but a slight degree of material realities. The child who in response to "Where have you seen the surface of the earth?" said "On the map" instantly betrayed a faulty method of teaching. Reference has already been made to the tendency of

the black dots and snaky lines to remain just so, instead of suggesting cities and rivers.

This finality of the symbol may be obviated but not absolutely eliminated by a slow and thoughtful introductory teaching of the map. The fundamental consideration is "scale." The fact that a large room can be adequately represented on a small piece of paper must first be grasped by all the pupils. This should be developed Socratically, as the idea is too important and of too general application for the teacher to depend on mere telling. If the class room is five yards by six yards and the same proportion is to be shown on the pupils' plans, they must be led to see that if they use inches instead of yards, their drawing must be five inches by six inches. They should then be taught the word scale and should place upon their papers something like the following. "Scale—One inch stands for one yard." After they have succeeded in drawing their class room plans with its windows and desks to approximate scale, they should be supplied with simple blueprints or mimeographed plans of various dimensions, and with the aid of scale and rule should determine the actual dimensions of the rooms. Plans of squares and parks should be similarly treated, the larger denomination mile taking the place of the foot or yard.

After considerable practice in drawing and reading simple plans, the pupils are ready for the study of the conventional methods of map representation. This work, of course, makes some perceptive or vividly de-

scriptive knowledge of rivers, mountains, oceans, etc., an essential presupposition. If the home geography can furnish the requisite observation material it should certainly be employed. In the absence of such favorable environment, its place must be taken by pictures and description. Moulding in clay or sand is an excellent way of representing clearly to the minds of the pupils such features as mountains, valleys, river basins, etc. Much of this objective work is apt to find disfavor with teachers on the score of its being troublesome. This is a just criticism, perhaps, but it must be remembered that the best results in teaching as well as in life are by no means those characterized by ease of attainment. It is moreover a consoling consideration to know that time spent in such a manner is really economically employed in that it yields a compound interest of thorough mental organization. Particularly where the pupils themselves do the work in moulding are the results most effective.

It is necessary to remember, in all such objective work, that a good pedagogic beginning is, after all, only a beginning. Some teachers show an alarming willingness to accept the crown for a well planned initial lesson or two and then drift back into a formal verbalism which soon obliterates all traces of the excellent start. Elementary geography begins, continues, and ends in the concrete.

Maps readily degenerate into collections of conventional symbols unless frequent reference is made to their underlying realities. Map reading is an exercise which should ever accompany objective work. A se-

ries of prints showing picturesque views of the Rhine, for example, should be immediately followed by the study of a map of the region on which are clearly indicated the interesting places which have just been the subject of pictorial representation. This map reading should also include exercises in working out relationships such as drainage and surface, surface and industries, commerce and city locations, etc. The black snaky line is apt to be "desymbolized" into a real river when the pupil is required to determine from its course the slope of the land. The black dot must needs lose some of its "dottiness" when it suggests a prosperous port with its shipping and active industrial life. The scarcity of dots in regions like northern Canada or in the Amazon basin becomes significant when connected with climatic considerations. It is doubtful whether associative work of this character can be overdone.

Map Drawing.—The above considerations in regard to map study have important implications for map drawing. Observation, emphasis, and correlation are the essential factors of this work. It may be said in passing that few geography text-books are well equipped with adequate pedagogical maps. Commercial considerations perhaps lead publishers to include a wealth of detail, rendering the maps confusing and unfitted for local use. When the engraving of maps becomes a cheaper process, the local needs of various communities will perhaps receive greater consideration.

There is no better way of insuring close observa-

tion of any object than by requiring pupils to draw it. Self-activity is called into play and the resultant drawing furnishes an excellent means of testing the pupils' care and attention. This consideration applies with especial force to map drawing. If, for instance, the teacher desires the pupils to observe closely the character of the coastline of Europe, the easiest and best way is to have them draw it. The adherents of the formal discipline doctrine would find the greatest value of such work to consist in the training of the power of observation. It does, in truth, furnish opportunity for the strengthening of an ideal of careful scrutiny, but its chief value lies in the fact that it emphasizes a specific geographical fact. Tracing over the contour of a light outline map would not be nearly so effective in securing this result, although even this method is far superior to mere verbal description.

Geographical emphasis may often be secured through carefully selected map drawing. Teachers often err by requiring too much detail and too extensive a map. If it is desired, for instance, to fix the zones in which North America is situated, three separate maps will probably be found more effective than one entire map of the continent. A map of the portion in the North Frigid zone, bounded on the south by the Arctic Circle, followed by a map of the portion bounded on the north by the Tropic of Cancer, and then by a map of the intermediate portion will provide an interesting and emphasizing exercise. A carefully drawn map of Long Island Sound drawn once is far better than a dozen maps of the United States, with this body of

water cramped and crowded into each of them. The teacher will be guided in her selection of what is to be drawn by the conventional value as well as by the local utilitarian value of the knowledge.

Along with the pedagogical emphasis attaching to such selective map drawing there is abundant opportunity for geographical correlation. In fact, every selection forms a kind of correlation. The definite omissions of the unselected portions give a rational setting to that which is drawn. The omission of the United States, for example, from the Torrid Zone portion of North America becomes peculiarly significant. Apart from this, however, definite explicit correlation can and should be secured. A map of Asia showing only the mountain systems and rivers binds together in a firm association these two related factors. So a map of eastern United States showing only the mountains and mining regions secures an important mental connection. Much of this correlational work can be effectively done on outline maps, as it would obviously be a waste of time to require the pupils to draw the contour in every case.

Although neatness and accuracy are desirable qualities in every school exercise, they must not be pushed to an irrational or unpedagogic extreme in map drawing. In no case should the aim become artistic. As in Hamlet the play was the thing, so here, the thing is the impressing of certain geographical facts. The elaborateness and finish required by some teachers of map drawing is unsound pedagogy from every point of view. Many maps should be avowedly rough and

sketchy, intended merely to serve some specific geographical end. In some cases, perhaps unprogressive and misguided teachers have found elaborate, detailed map drawing an easy way of setting their pupils to work for long periods, and a restful—to the teacher—exercise in which supervision was apparently unnecessary. At an educational exhibit in one of the large expositions, some years ago, one of the severest criticisms was leveled by visiting educators at a display of maps drawn by grammar school pupils, who, from the excellence of their work, might have seemed destined to take up map engraving as a profession. The slightest consideration of the time spent in preparing this exhibit would be sufficient to condemn it at once.

Occupations.—With the same reservations and cautions made in connection with the illustrative lessons of the two preceding chapters, the foregoing principles may perhaps be made clearer by a few similar specific examples.

In teaching the occupations of man to young children, the teacher must first consider what knowledge the class already possesses. Comprehension of occupations in general will be more clearly grasped if it can find a basis of actual experience in some particular occupation. In a section of a city where practically all the fathers of the pupils have stores or shops, the work might well begin with trading, buying and selling as a part of commerce. The actual observation of the children will form the corner stone of their intellectual apprehension of this one occupation. Excur-

sions to wharves, docks, or freight stations will enlarge their ideas. Throughout this work, emphasis must be laid upon the various phases of commerce as a means of making money or earning a livelihood. In a mining, lumbering, or agricultural district, these respective occupations would form the perceptive basis.

The pupils should then be led to understand the various leading occupations in as objective and picturesque a way as possible. Next to visiting industrial establishments, there is no more realistic way of presenting this subject than by means of moving pictures. Let the teachers once realize the educational efficiency of Edison's great invention, and lanterns and appropriate films will soon be forthcoming. The various occupations should not be taken up simultaneously, but sufficient time should be given to each to allow of building up an organized mass of knowledge. Only after this has been done, should the pupil be led to group together the various occupations as so many ways of earning a livelihood. The term occupation will have been used in connection with each form, so that it may easily attach itself to its rather simple connotation.

In the course of these lessons, abundant opportunities are offered for geographical correlation. The influence of location, climate, soil, and surface upon occupation should not be disregarded. Map reading exercises in which the pupils are asked to determine the probable nature of the occupations in various regions will be found an interesting means of organizing and fixing their knowledge. Every geographical fact—

and occupation is a very important one—should be regarded as an effect, whose causes should be ascertained so far as possible by the self-active search of the pupils.

The Straits of Europe.—In teaching a lesson on the straits of Europe, the teacher should bear in mind the conventional value of this knowledge to the ordinary American child. The method of teaching will be profoundly influenced by a recognition of this value. Historical and literary associations of an interesting character should be brought out. Latern views, pictures, and geographic descriptions must make the presentation as objective as possible. The ability to give the exact location of these straits is not nearly so important as the knowledge of interesting events connected with them.

Their location may be fixed by the pupils making imaginary voyages from place to place, with their maps before them. Additional interest may be gained by questioning the pupils as to the strategic importance of control of the straits in case of war. This will also help in organizing their knowledge and connecting it with naturally related facts. The Bosphorus, for example, must be thought of as the key to southern Russia, a fact which will explain the peculiar relation of Turkey to the rest of Europe. A fortress and fleet at Gibraltar as an advantage to British control of the Mediterranean will be readily grasped by even young pupils. The Kiel Canal can probably be compared with the long voyage through the Cattegat and Skagerack, and the resultant ad-

vantage to the northern German fleet will be easily understood.

It is perfectly obvious that such teaching of the European Straits is far superior to the mere drill in exact locations. The map study involved in answering questions like those indicated above will sufficiently impress the location. If thought necessary, the latter may be further emphasized by the pupils printing upon an outline map the names of the straits and of the countries whose shores they separate. So long, of course, as makers of term examinations ask for mere locations, drill in location is apt to take the place of the interesting study suggested by the nature of the subject.

Direction.—The value of a knowledge of direction is primarily utilitarian. The eight principal points of the compass should be understood by all elementary pupils. Particularly should the child be able to determine the other points of the compass when he knows one. He should quickly and accurately derive north, east, and south from west; west, east, and north from south, etc. This utilitarian value determines the aim of the teacher's instruction and drill.

Although north is the most logical direction with which to begin, east is probably the most satisfactory pedagogically. That the sun rises in the east and sets in the west is known by most children by the time they take up geography, or it can readily be shown. Observation of morning shadows as compared with afternoon or evening shadows, as well as observation of the sun itself, will determine east and

west as two exactly opposite directions. North and south can then easily be derived. A large arrow painted upon the floor of the class room, indicating north, would tend to familiarize the pupils with the directional relations of their own room. They should occasionally stand up facing exactly north, then indicate east and west respectively by raising first the right and then the left hand, finishing the exercise—which might assume some of the character of a gymnastic drill—by wheeling around and facing the south. They should be led to ascertain the directions of their respective homes from the school house, at least to the extent of almost south, between north and east, etc. Similarly they should know the directions of the principal streets. Of course, when the four intermediate points—N. E., N. W., S. E., and S. W.—are learned, more accurate directions may be demanded.

In teaching the direction north, three important ways of determining it should be explained, viz., the compass, the shadows at noon, and the north star. There is possible utilitarian value in all three of these methods and certainly considerable conventional value. If possible, the teacher should secure a mariner's compass and exhibit it to the children. Its importance to the seaman can be explained so simply that young pupils could easily comprehend it. How far magnetism as an electrical phenomenon should be discussed would naturally depend upon the age of the children. Even young children, however, should have some tentative explanation of the mysterious

movements of the steel needle. The noon shadows of vertical objects form a handy method of determining north. The fact that at noon the sun is directly over our meridian due south of us can be explained in connection with the time abbreviations A. M. and P. M. The method of locating the north star by means of the Great Dipper is interesting as well as useful. Night excursions for young pupils are not to be recommended. Still it would probably not be amiss to have a class come to school some evening late in the fall, to be shown exactly how to find this important star. The opportunity would also be afforded for an interesting study of a few of the conspicuous constellations, such as Orion, Pleiades, Auega, etc. The happiness as well as the conventional value of a knowledge of these constellations is not to be lightly brushed aside. Merely knowing their names enlivens an evening walk for the incipient astronomer as much as knowing the names of plants does for the wandering botanist. It is an instance of life broadening.

The direction we have been considering thus far may be called absolute, as distinguished from relative direction, such as is indicated on maps. No matter how the book may be placed, the top of the map is north and the bottom south. As referred to before, care must be taken that relative positions on a map must be properly interpreted as indicating actual directions. The words above and below should not be permitted to take the place of north and south. In the first introduction of direction in connection with map study and drawing, teachers should assure

themselves of the pupil's comprehension of the representation. Wall maps which must as a rule hang vertically should occasionally be placed upon the floor, making the relative directions coincide with the absolute. Teachers are prone to make light of this confusion, but it exists and must be guarded against.

It is probable that the uncertainty of ejective knowledge is nowhere so well exhibited as in the ill-warranted assurance of many teachers in regard to their pupils' comprehension of the symbolism of maps.

Meridians and Parallels of Latitude.—In the teaching of meridians and parallels, the concept to be developed is mathematical and abstract. The concreteness which is characteristic of so much of the geography course is not applicable here except in the way of objective illustration. The pupils must fully grasp the fact that these lines are symbolic or imaginary. The presuppositions are familiarity with the globe as representing the earth, the equator, poles, and a knowledge of circular measure. The latter presupposition would probably necessitate a separate preparatory lesson. The fact that the circle is divided into 360 degrees must be told by the teacher. Considerable oral drill should fix this fact. Particularly should the pupils be required to solve promptly such problems as "How many degrees in a quarter of a circle?" "In a half circle?" etc. The division of the clock circumference into seconds and minutes is known to the pupils and can be related to the corresponding divisions of a degree. The marks ' and " should also be taught. Some simple written

work involving degrees, minutes, and seconds should be given to fix circular measure in its entirety.

The aim of the lesson, from the pupils' viewpoint, would be brought out best by arousing an attitude of expectant attention based upon the felt need of the explanation. The pupils could be questioned as to how they would direct a stranger to a certain part of the city, or, as to how they would state its location. Streets and roads would naturally form an essential part of their answers. "Where is the new hotel?" "At the corner of Main Street and Willow Avenue." "On Cedar Lane, between North Street and High Road," etc., etc. Now the teacher arouses curiosity by asking what method of location could be used where there are no streets or roads, e. g., in a wilderness, a desert, or on the sea. A small fishing boat chances to see a wrecked ocean liner far out of sight of land. How can it remember the location so that it may be able to direct a rescuing crew from the shore? Such questions will easily arouse in the pupils' minds the need of something bearing a resemblance to the cross streets of a city. They are then ready to be told about the great circles running through the poles, called meridian circles, and the other circles parallel to the equator and north and south of it. The names latitude and longitude should then be introduced, and the pupils shown a globe plainly marked with these lines. They should at once be required to apply their knowledge of circular measure. Abundant practice should follow in determining the latitude and longitude of various places,

first from the globe and then from maps. Approximations to integral degrees should precede exact determinations involving minutes and seconds. The fact that these lines are imaginary and that they are indicated merely on maps and globes and not on the earth's surface should be emphasized.

Some thoughtful members of the class will naturally raise the very proper query as to how mariners determine just what imaginary lines they are on. It may suffice to answer in a general way that this is done by means of various instruments such as chronometer and sextant and observations of the sun and stars. A separate supplementary lesson might be given if the pupils are sufficiently mature, explaining the use of the chronometer in determining longitude and of the altitude of the North star in determining latitude. The instruments actually used or good pictorial representations of them would add an interesting objective touch to the lesson.

Map study and drawing form a good method of fixing the knowledge thus acquired. Let the pupils draw the Greenwich meridian, printing across it the names of the land and water divisions through which it passes; similarly for the parallel of latitude and the meridian of their home city. The computation of distances in miles north and south on the basis of latitude is another good way of fixing the facts and relating them to concrete geography. The impossibility—for the pupils—of doing this on the basis of longitude differences, except on the equator, is an interesting point which could wisely be elicited from

the pupils by questioning. Further correlation with direction could be secured by calling attention to the noon shadows of vertical objects, a fact with which the pupils are already acquainted from their first study of direction.

Rain.—There are various topics of physical geography which furnish excellent opportunities for correlation with important principles of physics. Indeed, without some such correlation, the geographical facts themselves can scarcely be understood. As most elementary school courses are now arranged, the only opportunity which a pupil has to acquire any knowledge of the interesting and useful science of physics is through the implications of geography and physiology. The phenomenon of rain has been selected because it well illustrates their correlation.

All weather phenomena occupy a large place in the mind of the general public. The familiar greeting "It's a nice day!" bears out this fact. Rain, snow, hail, mist are forms of precipitation which have probably come into the experience of all elementary school pupils, and the impression has been intensified frequently by a strong emotional tinge. The discussion of the cause of rain will therefore naturally awaken their curiosity. The explanation will presuppose a knowledge of the principles of evaporation and condensation of water, which presupposition will demand a distinct preparatory lesson on these physical aspects of the topic.

The first fact to be presented to the pupils is that all matter exists in three states, solid, liquid, and

gaseous. Live and abundant questioning will elicit many illustrations from the class so far as the solid and liquid states are concerned. Water will obviously furnish the easiest and, for the purpose of the lesson, the best substance for experiment and observation. Although it may safely be assumed that all the pupils have observed the melting of ice and the boiling of water, an objective demonstration of these transformations is most desirable. The vividness derived from perceptual presentation, no matter how familiar the phenomenon, is always a valuable foundation. The teacher should secure a piece of ice and explain that she intends making it first liquid and then gaseous by the application of heat. The name steam or vapor should be applied to the gaseous water and caution should be taken that the pupils understand that vapor is really invisible, that the so-called clouds of vapor seen escaping from the spout of a tea-kettle are in reality numerous drops of water held together by the vapor. The term evaporation should be applied to the slow transformation of water into vapor, a phenomenon which the pupils have frequently observed in the drying of streets after a shower, the drying of clothes on a wash line, etc.

The important point for the pupils to grasp here is that the water is not annihilated, but that it merely changes its form. The truth of this latter fact can be easily proved in connection with the experiment described above. The steam escaping from the boiling water will readily condense on a cool plate held above it, and the drops of water should be

shown to the pupils. They should then be led to apply the word freezing to the phenomenon of changing water into ice, and might be allowed to guess for a moment or two as to what name is given to the transformation of vapor into water. They already know the terms melting, evaporating, and freezing and will readily appreciate the necessity of the additional word. As soon as they appreciate this necessity, but not before, should they be given the words *condense* and *condensation*, which terms should be plainly written upon the blackboard and pronounced by the class. The lesson could profitably conclude with an oral discussion of various familiar instances of evaporation and condensation, such as the collection of water drops on the outside of a pitcher of cold water, the fogging of window panes in winter, the drying up of ink in ink-wells, etc.

At the subsequent lesson on rain, there should first be a brief oral review of the principal points of the previous lesson, a review in which the words evaporation and condensation are used as much as possible. The aim of the lesson should then be concisely stated as the purpose to explain the cause of rain on the basis of the physical facts previously learned. This explanation can now proceed largely in a Socratic manner. The pupils will readily respond to such questions as to how the waters from the surface of streams, from rain soaked streets, etc., are taken up from the earth, and they will be quite willing to believe that the clouds they see in the sky are really masses of vapor more or less condensed. This would

be an appropriate time for a lesson on cloud forms, the principal varieties being described and pictorially represented. Excellent lantern views of clouds are easily procurable and would add greatly to the interest of the lesson.

Another experiment could now be profitably undertaken to show the cause of the actual precipitation of rain through the agency of further condensation. A porcelain pail of water might be exhibited and the pupils asked to observe the condensation of atmospheric vapor on its external surface. The water could then be rapidly cooled by stirring in a large number of small pieces of ice. The pupils can then observe how the initial mist collects in small drops, then larger drops which finally become so heavy that they slide down the sides of the pail. It could then probably be drawn from them that analogous conditions might produce similar effects on the vapor masses called clouds. Rapid cooling would at once suggest itself as a cause, and would lead to the question as to the cause of this cooling, easily traceable to the influence of cool air currents or winds. No further detail than this is desirable for young pupils. The relation of direction of the wind to cloudy, rainy, or fair weather could readily be educed from the class.

The time consumed in the kind of lesson above outlined might be objected to by some on the ground of the unpractical nature of the subject matter. When we consider, however, that utilitarianism is only one of the aims of education, and that the only knowl-

edge of physics which the large number of pupils never reaching the high school will ever receive is contained in lessons like these, the character of the work seems to find ample justification.

CHAPTER XI

HISTORY

The Nature of Elementary History.—The requirements of the elementary school oftentimes materially affect the character of the various subjects of the curriculum. Neither geography nor grammar, for instance, can approximate that degree of exactitude or completeness which is essential to their scientific phases. Nor would any sane teacher make such an attempt. Precisely the same consideration applies to elementary history. History as such must conform itself to the aims and capabilities of the elementary school. What these aims are will be considered in detail in the following paragraphs. Here it will suffice to mention that the conflict between historians as to what is the true scientific historical standpoint need not seriously concern the elementary teacher. The slightest reflection will render it obvious that history to be of any value to young pupils must be much more than a mere chronicle of events. The historian's unifying personality must supply a substantial matrix for the narrative. Of course, the intrusion of such personality must not amount to partiality or bigotry. It will be readily admitted that this unifying influence of a personal viewpoint in a historic work,

though exactly what the elementary pupil needs, becomes a disadvantage to the post-graduate student or college professor. It certainly seems that even the latter can scarcely escape a viewpoint, although he may regard such escape as a bounden duty of the true historian. It is evident, however, that the intellectual maturity required for such a mental attitude can hardly be found in the youthful minds of elementary school pupils. Here the point of view and even the emotional tinge must generally be suggested by author or teacher.

All nations which have had any patriotic instincts have laid stress upon their own history. In early times these quasi-historic records often took the form of epic or ballad poetry sung by traveling bards for the entertainment or glorification of their royal auditors. They were handed down by oral tradition and in many cases were inextricably interwoven with their religious beliefs. The singing and recital of these poems undoubtedly exerted a tremendous inspirational influence. Today every nation insists on instruction in its own history for all the pupils of the common schools. As a result of this demand, the elementary history course has rather generally assumed the character of national history, with only such references to foreign history as may be deemed necessary to supply a background. The importance of other values of history study than the mere arousing of patriotism has, as we shall see, somewhat changed educational opinion in regard to the importance of foreign historical study.

Utilitarian Value of History.—It is extremely difficult if not impossible to draw sharp lines of demarcation between the various values of history. The attempt to do so is made here merely for convenience of treatment. Surely it is an essentially useful consequence that a man should so love his native country that he would be willing to die in its defense. Yet the general character of this value seems to make its consideration more appropriate to a discussion of morality.

The principal utilitarian value attaching to the study of a nation's history is largely identical with that which is derived from any kind of historical study. We can only hope to understand the present in the light of the past. How could anyone even approximate a rational comprehension of modern English spelling without some knowledge of its historical development. The application of evolution to all departments of science has effected a revolution. Biology, sociology, and even ethics have been tremendously influenced by modern methods of historical or developmental research. Even such an apparently simple tool as an axe is best appreciated by a careful study of its various forms in past ages. Not only does such historical method enable us to grasp most fully present significance, but, what is still more important, it tends to prevent the repetition of what the past has absolutely proved to be erroneous. This point of view has impressed educators so strongly that many have urged that wherever possible pupils should learn as the race has learned—the method of re-dis-

covery. There is much to be said in favor of this view, but its full discussion here would carry us too far from the subject in hand.

The reasons discussed above in favor of the historical method in all departments of learning apply with especial force to the study of the succession of events usually designated history. The definite living of the past in the present should be emphasized by the teacher at every opportunity. The attitude of the North and of the South toward the Negro race, for example, can be adequately understood only in connection with the entire history of slavery in the United States and particularly the period of the Civil War and of Reconstruction. Again, in a democratic nation such as ours, it is vitally important that the duties and responsibilities of citizenship be understood. Universal suffrage carries with it the necessity of a thorough grasp of the historical development of our political institutions. Without this historical background, the highest type of useful citizenship is practically impossible. Especially when we consider the cosmopolitan character of our population, and the dangers attending unrestricted immigration, does the absolute need of such historical study manifest itself. It is perhaps no exaggeration to say that the future welfare of this nation depends largely upon how the school measures up to its responsibilities in the development of a proper historical view point.

Conventional Value.—When we say that a man is well-informed, we naturally assume that his knowledge of history, though not necessarily extensive, is com-

prehensive. As in geography, so in history, the conventional value of any topic, other things being equal, is inversely as its remoteness in time and place. Apart from the utilitarian considerations discussed in the preceding paragraph, a man is regarded with a measure of contempt if lacking in knowledge of the history of his own city, state, or country. The elementary school must recognize the importance of this fact, and for this reason, if for no other, prevent any of its pupils from going into the world ignorant of their country's history. For a person not to know that Jefferson wrote the Declaration of Independence is certainly as reprehensible as though he were ignorant, say, of the correct spelling of the word disappointment.

The conventional value of history moreover goes beyond the mere narrative of the events of one's own country. The history of other nations assumes importance not only in so far as they are connected with that of the United States but also to the extent that they are of world wide significance. Napoleon Bonaparte, for example, is a much greater figure than his connection with the sale of Louisiana or with the War of 1812 would lead the pupils to suppose. Moses, Confucius, Alexander the Great, Julius Cæsar, Charlemagne, William the Conqueror are but a few examples of historical personages of whom no man with any social aspirations whatever can afford to be ignorant.

Much of the conventional value of history, particularly of the old world but also to some extent of our own country, depends upon the light it throws upon

literature. The correlation between history and literature will be fully discussed later in this chapter. In this connection it is sufficient to refer to the fact that literature old and new teems with allusions to historical characters and events. Intelligent reading demands that these allusions shall be readily understood. Legendary and mythical quasi-historical events must also find their place in the elementary course if the conventional value of the subject is to be adequately recognized.

Disciplinary Value.—In view of the author's attitude toward the disciplinary value of school subjects, it may appear strange to devote a section to this topic. It is perhaps needful to do so on account of prevalent opinions and misunderstandings. It is frequently urged that history trains the imagination. This is true if the statement is taken to mean nothing more than that there are abundant opportunities in the teaching of history to arouse and exercise the pupil's imaginative activity. We may even go further and say that good history teaching necessarily involves much constructive imagery on the part of the pupils. History lessons are rendered both interesting and profitable to the extent that verbal description or narration stirs the imaginative activity of the pupils so as to create vivid images. That such activity is necessary to the grasping of history may be wisely explained to older children and in this manner an ideal of attentive constructive processes may be formed, an ideal which may readily carry over into other subjects.

Again, when it is said that history trains judgment and reasoning, a similar interpretation is required. That history is philosophy teaching by example is a profound truth which it would take a philosopher to discern. The teacher of history should, however, appreciate the truth of this maxim and endeavor wherever possible to show the pupils how clearness of judgment or foresight produced beneficial effects, and how lack of deliberation led to failure. History is full of texts for lessons of every description, which if properly employed may well influence pupils and lead them to the formation of ideals of deliberation, caution, consideration of motives, and the like. The important point to remember is that these ideals can scarcely be trusted to form themselves, but must be diligently fostered by the live and sagacious teacher. The work of the Constitutional Convention in framing the new Constitution on the basis of the imperfect Articles of Confederation might wisely be studied in considerable detail, if the teacher has in mind the opportunities for the kind of disciplinary value here discussed. Similarly the history of slavery and particularly the compromises which attempted to avert the impending crisis furnish excellent material of the same character.

Moral Value.—There has been considerable difference of opinion as to just what responsibility the school should assume in regard to the moral education of its pupils, some taking the ground that the main work of the school consists of intellectual instruction, while others maintain that, in addition to

the incidental unconscious influence of school life, there should be a definite course in morals. Whichever of these two views we adopt, there is one moral sentiment whose nurture the state can justly demand as a sort of *quid pro quo*. This sentiment is patriotism, with all the implications of the term including its various duties and responsibilities as well as the emotional state of love of country.

The government of any nation has a perfect right to demand of the schools the inculcation of gratitude and affection as a return for the blessings of organized rule. The heterogeneous character of our population renders this demand conspicuously important in our country. Obviously no study in the curriculum is so well suited to arouse a patriotic attitude as history properly taught. The recital of the trials and sacrifices of great men and women for the good of their country cannot but inspire the youthful pupils and arouse in them a spirit of emulation. Lincoln's Gettysburg address and the tragic events of his death, Washington's part in the formation and organization of the new government are two instances out of the thousands which force themselves upon the reverent attention of the thoughtful students of United States history.

There are some who regard patriotism as a narrow virtue, and who maintain that the only ideal worth striving for is love of humanity as a whole. Though theoretically unassailable from the standpoint of ethics, this idealistic view is impracticable for those who live in a world such as ours. It represents an

ideal to which we may strive to approximate, but one which seems millennially distant. Moreover we must not forget that the real end of human action does not always coincide with the immediate conscious end. Those deep feelings which sway us so profoundly in the sympathetic atmosphere of family and community life probably give an intensity to our actions which would be sadly wanting if the feelings were spread out thinly over the whole human race. Charity begins at home is no narrow platitude but expresses a profound moral truth. Even rational self love has its place in the world's moral organizations. Thus the seemingly narrow affections of the family, neighborhood, city, state, and nation probably produce a cumulative moral effect which unconsciously conserves the spiritual welfare of humanity. This does not mean that the people of one part of the world should neglect their unfortunate brothers in other parts. The white man's burden is doubtless a real burden, which the moral white man must shoulder morally. It is an argument, however, against those who belittle patriotism as a narrow sentiment. The school can legitimately, through its inner social life, demand a spirit of loyalty from its pupils, a loyalty which is to be regarded as but a stepping stone to that larger loyalty to country, viz., patriotism.

In addition to the definite inculcation of patriotism, history has all the moral value derivable from the study of biography. The lives of great men and women are sources of inspiration in many ways. Washington's habits of truthfulness and accuracy in

their causal relation to his success as a man are deeply impressive. So the study of the boyhood of our great men as related to their later usefulness is of great moral value. The invention of the steamboat and the laying of the trans-Atlantic cable are illustrations of historical topics whose use as items of information is insignificant as compared with their inspirational value. Elementary school children can hardly be expected to appreciate the sociological forces which are so momentous in the development of the world. This furnishes an additional reason for emphasizing the biographical aspect of history, at least in the first two or three years of the study. It should probably remain largely biographical throughout the elementary course.

The pitiless iconoclasm of modern scientific methods of research has played havoc with many of our most cherished traditions. History has by no means escaped this destructive influence. The true Benjamin Franklin and the real true Thomas Jefferson have well nigh dislocated these two characters from their long hallowed niches, leaving some measure of scorn and contempt where once were awe and reverence. Similarly, important historical events such as the annexation of Texas, the election of Hayes, etc., tend to breed, when accurately told, an emotion quite the opposite of affectionate patriotism. This brings up the important question as to what should be the attitude of the elementary history teacher toward strict historic accuracy when it militates against the moral value of the study. We may safely say that this atti-

tude should not be in any way cynical or pessimistic. It is perfectly proper that a child should know that men are human sharing in greater or less degree the weaknesses of all humanity, and that even our own nation to the extent that its guidance is human is far from infallible. The unholy joy which some critics find in gloating over the weak and evil aspects of history certainly has no place in the class room. Rather emphasize the good and lovable so that historical study may ever possess an atmosphere of cheerful optimism. The post-graduate student of history may look sneeringly on such presentation of history, but the elementary pupil needs it even though the whole truth may sometimes be left untold.

The foregoing discussion has a definite bearing upon the teaching of civics which is often taken up in connection with history. The "rottenness" of American politics is a theme of which critics both foreign and domestic never seem to tire. A cynical indifference toward municipal, state, and national corruption has too often characterized us as a people. What shall be the teacher's attitude in this perplexing situation? Schopenhauer's famous criticism of education in general is directly applicable here. This pessimist argued, it will be remembered, that the school failed in that it built up in the pupil's mind an ideal world which never did nor never could exist. As a result, when the product of such educational absurdity faces the actual world, he soon discovers that it is essentially different from the schoolmaster's world. He either tries to change it to suit the ideal, in which

attempt he thrusts his head against a rock, or he indulges in the painful operation of changing his ideas to suit the reality. The latter process is difficult and discouraging, and often leads to an attitude disgustingly cynical and exaggerated. We may, of course, make a considerable discount on the opinions of the man who observed and recorded the fact that while every rose has a thorn, there is many a thorn without a rose. Nevertheless, pessimism properly understood is wholesome medicine for the educator. It is pedagogically wrong to give youth the impression that the theory of democracy underlying our government is practically and consistently carried out. Better let them understand the dangers and evils of our system, so that they may be impressed with a full sense of their moral responsibilities as citizens, and thus be able to take an intelligent part in that important business of every American—politics. Above all, avoid the hopeless cynicism which if not energetically combatted bids fair to undermine the greatest nation which the world has yet developed.

The History Teacher.—It goes without saying that the first qualification for a teacher of any subject is intimate knowledge of that subject. This is particularly difficult where the teachers are not specialists, a condition prevailing in the vast majority of our elementary schools. A live teacher of geography, for instance, should not only be widely read, but also widely traveled. This is true to a large extent of the teacher of history as well. The sabbatical year for elementary teachers, accompanied by a sabbatical

salary, is a desideratum today. Intelligent travel vivifies historical knowledge in a way which cannot be accomplished by any amount of reading. In lieu of travel, however, extensive reading is valuable. Effective history teaching demands that the teacher be full of her subject. Only in this way can there be secured for the narrative a setting which will stir the imaginative activity of the pupils and furnish the necessary emotional atmosphere. The teacher of history whose knowledge is bounded by the covers of the text-book will in all probability find the work dull for herself and for her pupils. A fund of anecdote and illustration is nowhere so necessary as in the teaching of this subject. With a clear grasp of the distinct values of history, she will be enabled to cull from her vast store of information descriptions and narratives which will definitely secure the end to be attained. Attendance upon lectures, active reading circle work, copious research will all be found helpful. The greatest argument for departmental work in the elementary schools is probably furnished by the necessary equipment of the successful teacher of history.

Pre-Text-book History.—No history text-book is needed in the first two or three years of school life. This does not mean that the pupil is to remain ignorant of his country's history. On the contrary, history and civics as well should begin in the very first grade if not in the kindergarten. The narrative of our nation's growth is intensely interesting and can readily be told in such simple form that very young

children can understand it. The inculcation of patriotism is an essential aim of this part of the work.

In most American cities, the anniversaries of great historical events are made the occasion of suitable school celebrations. Frequently a school holiday is allowed, in which the state, oblivious of its educational duties, often misses opportunities for impressing the rising generation with high civic or patriotic ideals. Such holidays tend to degenerate into romps and jollifications in which the last thing thought of is the historic significance of the day. Recently there has been a marked tendency to bring about a rational improvement of these occasions.

The school, however, attempts to make up for the negligence of the state. Where a holiday is granted, a portion of the previous day is usually set aside for appropriate exercises. On these occasions patriotic songs are sung by the pupils, addresses are delivered, pictures are exhibited, selections recited and essays read. The last mentioned feature is frequently ill-advised. Care should be taken that the essay is of an appealing and intelligible character, and if a pupil is selected to read it, there must be no doubt that it will be read clearly and impressively. This is an extremely important consideration as dullness in such exercises is fatal. Moreover, the program must be sufficiently varied and not too long. Better send the pupils home wishing they could have had more than glutted with an over-sufficiency. If a speaker is invited to address the young children, it is not enough that he or she be a prominent citizen of the commu-

nity. The ability to talk entertainingly to young pupils is the *sine qua non*. Even governors and mayors, not to mention councilmen and school directors, are often sadly deficient in this power. The principal or one of the teachers in the school is often a far happier selection than persons of much greater prominence.

Using historic anniversaries in the manner here indicated has the advantage of providing what Herbartians term a core of concentration. The historic events are associated with the interesting and novel features of the celebration, and thus tend to be more firmly organized. For young children especially, one of the most impressive features of such exercises is dramatic representation. The dramatic instinct is strong in the young, and there could be no more interesting way of presenting historical events than by having the pupils themselves, and as many of them as possible, participate in the exercises. The alert teacher will find it extremely interesting to devise such dramatic features and will be amply rewarded for her trouble by the intellectual as well as emotional effects upon her pupils.

Historical narratives, particularly those dealing with biography, should form a considerable part of the subject matter of oral and written language. No set forms should be required, but the pupil should be encouraged to weave the narrative in an original way. Formal demands in this work are deadening. It is not so much accurate grasp of historic details as it is emotional and intelligent appreciation which the

teacher should strive to develop. The committing of poetical selections of real literary merit and sufficiently easy of comprehension is a valuable form of pre-text-book history. Emerson's *Concord Hymn* is a good example. In such memorizing work, it is by no means necessary that every word should be thoroughly understood. The process of learning words is often analogous to the placing of labels on bottles whose contents time alone will dissolve or crystallize.

History and Literature.—The correlation between history and literature implied in the latter part of the preceding paragraph is of far-reaching importance in the elementary school. It is very hard to determine at times whether a certain work should be classed as history or as literature. Even defining literature strictly as that form of writing whose main purpose is to give pleasure, it would seem inaccurate to exclude such works as, e. g., Fiske's delightful historical studies. Any history which purports to be more than mere annals perforce has a literary aspect.

Not only in the pre-text-book grades, but throughout the course should poetry and song form a part of the work in history. The Greeks may have had a keener appreciation of music than is given to us moderns, but we today are forced to share with them the deep regard for the moral influence of song. There is scarcely anything so inspiring as a group of children singing the national airs of their country. We do not deceive ourselves when we attribute the rousing of patriotic fervor to indulgence in such exercises,

and not the least of their by-products is the sense of social solidarity which means so much for later united action. The Marseillaise was by no means a negligible factor of the French Revolution. The texts of the songs should be thoroughly explained to the pupils, not only to secure historic correlation, but to ensure a deeper appreciation of their sentiment. Unsung poetry has not nearly the same sentimental value as the song, but its correlative value is not to be disregarded. It would be well for the teacher to collate poetry of historical significance adapted to the work of the grade. Excellent collections of this character have doubtless been made in various places, and teachers should push the good work along by letting others know what they have achieved. Longfellow's *Skeleton in Armor*, for example, is splendid literary work for a class studying the Norse voyages. Holmes's *Old Ironsides* is equally as effective in connection with the War of 1812. The intrinsic literary value of such poetry amply justifies its use as reading material apart from any other consideration.

In the field of prose literature, there is abundant opportunity for historical correlation, although its sentimental or emotional value is probably not so great as that of poetry. The writings of Prescott, Parkman, and Fiske may profitably be read to elementary pupils. The wise teacher will, of course, mark her copies of these books in advance so that the selections read may be in every way suitable. Older pupils should be encouraged to read these works for themselves, and they should certainly be upon the shelves

of every well equipped school library. The historical novel is also a rich field for literary correlation. Such novels are of course good, bad, and indifferent, and the teacher must guide the pupils to a proper selection. What this kind of literature lacks in historic accuracy, it makes up for in emotional interest. How many men and women of today are indebted to Dumas, for example, for their knowledge of the interesting period of French history treated by this picturesque novelist! *The Crisis* and *The Fair God* may be mentioned as the kind of historic novel which should appeal to the older student of history in the elementary school.

Objective Methods.—The perceptual vividness given by actual observation is almost as essential to history as to geography, but somewhat more difficult to secure. Geography is descriptive of the world as it is, and so all its factors are more or less accessible. History deals almost entirely with the past which must perforce be imaged rather than observed. It is important, therefore, to remember the intensifying character of the perceptive factor in imagery. The actual ground on which a battle was fought, the inkstand used in signing the Declaration of Independence, the flag that was captured at Yorktown, etc., give a rich emotional basis for realizing the past. The reverent guardianship of the Liberty Bell in the Philadelphia State House is amply justified from educational if from no other considerations.

The teacher of history should familiarize herself with various points of historic interest accessible to the

pupils of her community. Excursions to such places should form a regular part of the school work. The cautions and directions in regard to geographical excursions apply with equal force here. An important difference, however, is found in the reverential attitude which should characterize the historical trip. It should have little if any of the character of a jaunt or picnic. Whatever jollity may intrude itself upon the occasion should be kept separate and distinct from its historical bearings.

Further objective assistance can be rendered the imaginative activity of the pupils by the use of lantern views and other pictorial representations. A central library of such helps should be accessible to all teachers, and they should be encouraged to use them. The teacher herself should be on the lookout for striking or appropriate prints which should form part of her material equipment.

Though not strictly or entirely an objective method, the use of original sources in teaching elementary history has an analogous effect in the intensifying of pupils' impressions. The fact of secession, for example, becomes real when we see a copy of the original Charleston newspaper with its glaring head lines announcing the revolutionary action of the South Carolina legislature. Some time ago I saw a program of the theatrical performance during which Lincoln met his doom. On it was the announcement that the President would occupy a box that evening. The realization of that tragic circumstance was borne more deeply upon my mind than ever before. Original

sources of this kind have all the objective force of swords, chairs, clothes, etc., mentioned in the preceding paragraphs. The actual manuscript journals of the voyages of Columbus must vividly impress him who is fortunate enough to obtain a view of them.

Where the original is inaccessible or would be unintelligible to the ordinary student, facsimiles or printed reproductions are valuable. The sagas of Lief or the narrations of Marco Polo furnish interesting and helpful historical material. Of course, the elementary teacher's attitude toward such historical sources is quite different from that of the historian. Still less can the pupil be expected to examine and analyze such sources with critical acumen. Their place in the course is justified almost entirely by their vivifying influence. Various excellent collections of source material have been made which the history teacher could very profitably peruse. Hart's splendid *American History Told by Contemporaries* is one of the best of these historic anthologies. Mary Sheldon Barnes has attempted, and the result has been quite successful, to build an elementary text-book out of original sources. The pointed and realistic excerpts have been pieced together and connected by just enough commentary to give them an excellent pedagogic setting. I do not know of any other author who has carried out this idea so consistently. It is difficult to conceive of any text intended for elementary pupils which would be more realistic and entertaining.

Organization of Historical Facts.—The proper com-

prehension of the facts of history demands considerable mental organization of the pupil's knowledge. The events of the narrative must not stand out separately but should be grasped as links of a logical chain of causes and effects. This end can be secured to some extent by the use of the Socratic method. Question the pupils as to what they think would be the natural outcome of a certain event, e. g., the Kansas-Nebraska bill, making them state their reasons. Then compare their answers with the actual historic sequence. Lead them to see where their reasoning was faulty or their premises inadequate or defective. Historical knowledge gained in this way will be richer and more lasting. Or reverse the process and institute a regressive search for the causes of a given event, e. g., the failure of the Spanish to compete with the English in the colonization of America. A comparison between Sunday observance in New England and in the Middle West, the pupils tracing the causes of the difference, is another illustration of the kind of work here suggested. The mental organization derived from such exercises means real education in a sense very different from that supposed to attach to the ability to recite glibly a series of events.

The step of preparation is exceedingly important in connection with the proper organization of historical knowledge. The facts of previous lessons, which furnish the causal considerations for the new lesson, must be intensified by the influence of recency. The definite statement of the aim also becomes a vital factor in mental organization. It provides a schema

or plan in which the new work may find its appropriate place. Teachers should pay especial attention to this aspect of their preparatory lesson. Its neglect means failure. Not the least of the values of the statement of the aim is that it necessitates definite planning by the teacher.

Mental organization may be furthered by the use of blackboard outlines or syllabi. It is a great aid to the pupils' grasp of a mass of details to have ever present in graphic form with their relationship indicated the salient points of a lesson. Modern educators appreciate the value of such perceptual frame-work and often precede their discourse by printed or mimeographed syllabi distributed among the audience. The blackboard outlines for class work are most effective when they have been worked out by teacher and pupils together.

The reviews which most teachers find necessary to insure the retention of history afford splendid opportunity for organizing the pupils' knowledge. A review which simply re-states the facts may claim the associative force of repetition, but its lack of intensity and emotional dulness make it a weariness to the spirit of both teacher and pupil. In review, the subject matter should be treated in fresh guise. Where the first study of a given period follows a chronological sequence, its review should be largely topical. As a result, there is secured a certain novelty of presentation as well as apperceptive systematization. A splendid way of unifying the elementary pupil's knowledge of United States history is to permit him to spend the

last term of his course in a complete review of the subject based on important topics. Particularly valuable is such a topical résumé if, as is often the case, the study of United States history is concluded in the elementary school. Such topics as Progress of Science and Art, Political History, Growth in Territory and Population, etc., are useful as bases for apperceptive systems of a comprehensive character.¹ The pupil should, so far as possible, collate the related facts for himself, but the comparatively immature minds of elementary school children will need, for the proper management of good topical reviews, much help from teacher and text-book. Blackboard outlines in connection with this work will be found of even greater value than in the presentation as discussed in the previous paragraph.

Type Method.—So great is the amount of detail which presses for consideration in the teaching of history, that the teacher is forced to give much thought and careful deliberation to the planning of her work. What may safely be omitted becomes a most important question. A solution of this vexing problem, and one that has excellent psychological justification, is found in the use of the type method. This method has been described in Chapter III. and illustrated in its application to geography in Chapter VII. As employed in connection with history, its purpose is not so much the formation of concepts as it is the presentation of

¹ An attempt to work out a text book along these lines has been made in *A Brief Topical Survey of United States History* by Dr. Oliver P. Cornman and the author.

a complete descriptive picture of an historical procedure, a picture which can be mentally recalled and modified to suit other cases. Early voyages of discovery and exploration, for instance, had many points of resemblance. They were all characterized by the uncertainties and dangers of wind propelled vessels, the absence of modern instruments of navigation, ignorance of geographical facts and conditions, hardships due to improper food and water, etc. On the side of those who undertook the voyages, there was likewise a great similarity of motives:— discovery of new routes, commercial advantages, desire for conquest, love of adventure, geographical curiosity, desire for wealth, and religious zeal. Of course these motives entered in varying degrees as actuating factors of specific voyages, and never were all combined in any particular case. The first voyage of Columbus, the circumnavigation of the globe by Magellan's fleet, and the explorations by Marquette and La Salle could advantageously be taught in great detail, as they would furnish ample type lessons. Original sources, used in the manner above indicated, should be employed to vivify the impressions. The graphic presentation of these few voyages would permit considerable brevity in the treatment of the others. For the latter the statement of motives and results would probably be sufficient, always, however, with the assurance that the pupils hold in mind the pictorial and emotional aspects of the type presentations. The same method of procedure is applicable to the teaching of a battle. It is probably essential to the realistic comprehension

of history that the pupils should have some definite idea of warfare. If the school is situated in easy excursion distance of an important battle field, such as Gettysburg, for instance, a well-planned trip to the scene of action would certainly be advisable. The plan of campaign, the movements of the armies, the field tactics of the generals, etc., should receive ample detailed treatment, maps, charts, and pictures adding objective intensification. Such thorough-going treatment of one battle would probably suffice as a type lesson. Similarly with the numerous treaties which have been made in the course of our nation's history. It is perhaps desirable that the exact procedure in treaty making should be known to the older elementary pupils. The Oregon Boundary Treaty would furnish a good topic for a type lesson, after which all other treaties studied could be taken merely in connection with the disputes or purposes causing them.

The History Text-Book—In the fourth school year or perhaps earlier a good text-book will be found helpful. The biographic treatment should be adhered to, and the style should be simple, picturesque, and appealing. Such a text should not be used for purposes of study, but rather for silent or oral reading after the lesson has been taught. In other words, the text-book in the early grades should become a sort of supplementary reader. Its purpose is to provide for the interesting fixing of the pupil's knowledge and for its fuller organization. No actual study or memorizing of any portion of the text is desirable, unless the book contain some poetical selections which it is well

for the pupil to commit to memory. History texts for young children should provide well selected material of this character.

As the pupil advances in the grades, the text-book should have less the character of a reader and become more of a study book. It should, however, remain largely supplementary to the work of the teacher. That is, it should follow the various forms of presentation outlined above, objective teaching, type method, etc. But the older pupil should be required to do more than merely read the text. Definite assignments should be made for home and school study. Linking the teacher's presentation and the pupil's study, there might well come a suggestive outline consisting perhaps entirely of questions, which would serve to give much-needed definiteness to the work of the pupils. The lack of such definiteness, particularly in a descriptive subject like history, is the chief evil of much of our present day study assignments. Requiring the pupil to fill in the outline or to answer its questions in writing is a convenient way of insuring and testing the study work.

Certainly in the high school and perhaps in the highest elementary grades assignments may sometimes be made of portions of the text not previously taught. The teaching in this case is supplementary and usually partakes of the nature of oral discussion or testing recitation. Such work, cautiously and wisely done, has great value. It enables the pupil to dig out information from a text through his own self-activity. He may often wish to instruct himself in this manner in

after life. It is eminently proper that the school should attempt to stand the pupil upon his own feet, and that the good teacher should, as Dr. Brumbaugh has expressed it, become "increasingly unnecessary." The study of an untaught text, however, demands more definiteness than is required by supplementary study. The pupils should be taught how to study, should be required to make abstracts and outlines, and clearly shown the importance of discriminating between the essentials and the non-essentials.

Historical Map Drawing.—As before indicated, there are numerous opportunities for correlation between history and geography. Every map that is drawn in connection with historical study becomes in a degree a fixing lesson in geography as well. The habit of close observation which was referred to as an important value of map drawing in the chapter on geography applies here with equal force. In addition to contour, locations, etc., the graphic representation of historical facts, scrutinized closely enough to be reproduced by the pupils, forms an excellent method of concentrating attention.

When Lessing, in the *Laocoon*, made his famous distinction between poetry and painting, the former having an essentially narrative and the latter an essentially descriptive character, he did not give sufficient attention to the unifying power of pictorial representation. Of course a narrative is essentially serial, events following one another in logical or chronological sequence. To understand the interdependence of narrative events, however, it is necessary to grasp

them more or less simultaneously. This the historical map enables us to do. A map, for instance, of the various acquisitions of territory by the United States unifies this narrative series in an emphatic manner. Similarly a map or chart showing the western movement of the center of population gives simultaneity and organization to the general facts. Similar considerations justify the extensive use of curves in exhibiting various dynamic phenomena. Again, much of history is descriptive, and here the graphic representation of map or drawing is particularly desirable. The study of a map showing the various European possessions in North America at the close of the French and Indian War is by far the best way of acquiring a knowledge of the circumstances.

Since the purpose of historical map drawing and study is primarily historical and in but a slight degree geographical, extensive use should be made of outline maps. The drawing of contours, rivers, etc., is indeed somewhat distracting. Excellent outline maps for historical purposes are now procurable at very low prices. There should be in every school an abundant supply available for every teacher of history.

The Teaching of Wars.—This is an important element of historical study which, on account of its unique position, has been reserved for separate treatment. Of course, the history of our country would be very inadequately understood if the important consideration of its wars was omitted. This subject has, very naturally and properly, an appealing attractiveness to young and old. The fighting instinct is uni-

versal. Every inch of progress of which our civilization boasts has been dearly paid for in blood. The undeniable disparity between individual and national morality complicates the teaching of this subject, especially when we have regard for the moral value of history. The high ethical doctrine of the non-resistance of evil is difficult to reconcile with our past and present attitude toward national customs and ideals. The child is early trained to refrain from nails, teeth and fists in the settlement of disputes, and still the world looks on complacently enough while the great nations increase their armaments. Whatever the theoretic attitude may be, practically we seem very far removed from universal disarmament. It is one of those decisions demanding a unanimous vote. The so-called yellow peril seems much more than a nursery bug-a-boo, and will doubtless increase the white man's burden for decades if not centuries, a burden which seems to demand for its adequate support, shells and bullets, floating and flying forts.

There is, of course, no doubt that peaceful arbitration represents an ideal to which all should strive to approximate, and the last half-century has witnessed wonderful strides in this direction. The moral obligation of the school seems plain. The impressionable mind of the elementary pupil should be trained to loathe the hellishness of modern warfare. The wars which have been averted in our own history through arbitration and treaty should be used as moral texts, so that the men and women of the next generation may further the work of peace. The Hague Peace

Conference and its results should be made subjects of special study. With this aim in view, it would seem desirable to teach wars in such a way that their horror should receive emphasis.

There is, however, another point of view which may not be safely disregarded. Warfare has not yet been eliminated, and this desirable consummation will probably not be attained in the near future. The demands of patriotism not only require that we reverence those who sacrificed their lives for their country, but also that the boys of today who will be the men of tomorrow must be willing, when the occasion arises, to make similar sacrifices. It would be a mistake to create such a loathing of war that we should be in danger of developing a race of cowards. The wise and patriotic teacher must make a compromise between these two opposite points of view. While giving due prominence to the moral aspects of peaceful arbitration, she must not overlook the practical side of the inculcation of a devout patriotism.

Current Events.—Not a day passes but what some interesting and record-worthy event transpires. Periodical literature of all descriptions attempts to acquaint the reading public with up-to-date news of science, art, literature, history, etc., so that no important happening should be withheld for a longer period than a month. The newspaper endeavors to publish everything of a novel or striking character so promptly that chagrin is felt if even an hour's delay intervenes between the event and its publication.

The live teacher of history must keep in close touch

with current events. In some schools, teachers have adopted the plan of meeting once a week for the discussion of the week's news with special reference to that portion of it which may be utilized in the class-room. Historic news of such a character would naturally be taught best in its proper connection. The habit of treating current events, including all sorts of happenings, scientific, geographical, historical, etc., as a kind of distinct curricular subject is not to be recommended. They all may, in a sense, be regarded as material for oral and written language exercises, but due consideration of their content would demand the development of appropriate apperceptive systems. Of course, where the events are of far-reaching importance and great conventional value the school principal may feel it desirable to give the information at once to all the pupils. This may be impressively done in connection with the opening exercises. What is objected to here is the method of purveying small pieces of unrelated news day after day, producing, as it were, a kind of intellectual hash.

In so far as a knowledge of current events is to be obtained by the pupils themselves, consideration must be had for their age. The modern newspaper, with its commercial instinct so often outweighing ethical and æsthetic ideals, is regarded by many as a dangerous kind of reading material for children. The racy and often sensational character of the news and comments, while it may reflect the demands of public taste, is frequently quite the opposite of uplifting. The vividness of impression which was discussed in

connection with the educational value of original source study applies with particular force to newspaper reading. Perhaps the teacher can make a compromise so as to avoid the moral danger and still secure the educational advantages. A solution may be found in the fact that there are newspapers and newspapers, and it is a legitimate function of the teacher to give the pupils a guiding principle of selection. This is as much her duty as it is for her to attempt to direct them to wholesome food, pure air, good books, and proper theatrical performances. Moreover, giving the pupils a plan or method of reading a newspaper is by no means an unimportant part of elementary education.

CHAPTER XII

PHYSIOLOGY

What It Is.—I have used the term Physiology as the title of this chapter in deference to prevalent custom. Neither in school courses nor in this discussion is the subject limited to bodily functioning but includes anatomy and hygiene as well. Human biology might be a happier designation for this work, although it sounds too profound and comprehensive for the name of an elementary school subject. The word hygiene alone is sometimes used, and although it emphasizes what many regard as the justification of the whole subject in the elementary curriculum, it is too narrow when we consider the entire aim of the course. This branch has a peculiar position in the elementary courses of many states, its study being demanded of the schools by legislative enactment.

Utilitarian Value.—There is nothing traditional about the subject-matter nor the method of teaching physiology in the elementary schools. Unlike arithmetic and grammar, it has been deliberately planned and placed in the course as a result of public sentiment backed up by legislative and educational mandate. Although educators have long regarded physical education as of supreme importance, it has been

only in comparatively recent years that this opinion has gained sufficient momentum to overcome the traditional intellectualism of the schools. Herbert Spencer, it will be recalled, in his essay on "What Knowledge Is of Most Worth?" gives a prominent place to the value of physiology as the science, knowledge of which is necessitated by rational self-preservation. There would probably be universal agreement among educators today that the preservation of health is the principal argument for the retention of physiology in the elementary curriculum. More specifically the evil effects of indulgence in alcoholic liquors and narcotics have induced a world-wide propaganda which has been directly responsible for the introduction of physiology in the schools of many states. Just how the teaching of this subject may help in the formation of hygienic habits will be considered in some detail later in this chapter.

Conventional Value.—Those who find the justification of anatomy and physiology in the school course merely in their relation to hygiene overlook the undoubted conventional value of these subjects. This value probably comes out more prominently here than in the case of history or geography. Our bodies are our earthly dwelling places and form a quite important feature of the landscape of home geography. The sage's "Know thyself," although primarily intended probably to apply to the spirit, is equally applicable to the body. Knowledge of the structure and use of the shoulder joint is more likely to be demanded in the ordinary intercourse of life than the ability to

name the countries crossed by the Equator or the events of Monroe's administration, and this entirely apart from any useful application of the information. Of course, by no means equal conventional value attaches to all the details of anatomy and physiology. That the spinal column consists of a number of hollow bones surrounding the spinal cord every human vertebrate should know. Their exact number and designations are not equally important items of information. For a wise selection of topics based upon their conventional value, the teacher must rely largely on a good text-book supplemented by her own common sense.

Literary allusions also render some knowledge of anatomy and physiology desirable. Holmes's *Living Temple* is an extreme illustration. But frequent references to various details of human functioning and structure abound in both poetry and prose. Some of the most exquisite passages of Tennyson, for example, can be appreciated only with the help of such knowledge.

Theoretic Value.—There are many parts of these sciences which have neither sufficient utilitarian nor conventional value to justify their inclusion in the course. They are useful, however, in giving a setting for otherwise valuable facts, or in rendering various processes intelligible. As we shall see in the following paragraphs, the building up of hygienic habits on the basis of physiological knowledge demands that this knowledge should be richer and more complete than would ordinarily seem necessary.

Objective Methods.—The discussion of objective methods in connection with geography applies with equal force to the subjects now under consideration. Excursions, however, are scarcely demanded as the objects of study can usually be brought into the classroom. In fact, the pupils themselves bring many of these objects on their persons, although they are generally concealed from view. There is some question as to how far this objective presentation should include the exhibition and dissection of various organs. Teachers can scarcely be expected to do such work effectively, and consideration must also be had for injurious emotional effects. Most school girls and many school boys would find the dissection of a sheep's heart or lungs rather revolting. Where this result can be avoided, intensity is given to the impressions by the actual observation and handling of bones, muscles, tendons, etc. The working apparatus of the physiology teacher should include large models of the various organs, as well as good pictorial representations and diagrams. For elementary pupils, a good anatomical model is often more effective than the actual object.

The correlation of physiology and physics should be emphasized objectively and experimentally. It has seemed to the author that it might even be desirable to include in the elementary course such experimental work in physics as is required for the intelligent appreciation of both geography and physiology. It could be made simple and interesting, and there would be a decided psychological advantage in having the

pupil's knowledge of physics form an apperceptive system of its own. Whatever may be thought of this suggestion, there is no doubt that such subjects as respiration, digestion, and perspiration are best understood when shown as applications of simple physical and chemical laws. Interesting experiments in atmospheric pressure requiring but little apparatus form an interesting perceptual basis for the comprehension of the phenomena of breathing. The relation of evaporation to the regulation of the bodily heat can readily be made clear by a preparatory lesson in experimental physics. Similarly the inability of carbonic acid gas to support combustion is vividly shown by means of such simple apparatus as a tumbler, some vinegar, baking soda, and a lighted taper. Every successful teacher of elementary physiology should have a working knowledge of simple experimental physics. If this has not been derived from her normal training, she must bestir herself to gain it in some other way. Hamlet's advice, "Assume a virtue if you have it not," should be taken to heart by every live teacher.

The Formation of Healthful Habits.—There is no doubt that the formation of healthful bodily habits is the principal, and, among many educators, the sole justification of anatomy and physiology in the elementary school. Such habits may be fostered in various ways, some through the influence of the teacher, most, however, through the pupil's home life.

Many bodily habits are instinctive and directly connected with self-preservation. The protective closing of the eyes, the movements of sucking, etc., are either

present at birth or very early selected and fixed from multiple reflex responses. There are, however, many exceedingly useful habits which have to be acquired. Some of them belong absolutely to the home. Regularity of bowel movements, bodily cleanliness, care of the teeth are a few illustrations of habits which should have been crystallized in the child's home long before he reaches school age. In addition there might be mentioned proper positions in sitting and standing, bedroom ventilation, slow mastication, etc.

The important question here for education is the determination of the school's attitude toward the habits which have not been formed in the home. The tendency today is to hold the school responsible for such functions as are conspicuously neglected by the other educational institutions—the home, church, state, and vocation. The modern school can no longer silently ignore decayed teeth, poor eyesight, mouth breathing, etc. So broad has become the scope of the school that it is forced to call to its aid various forces, civic and social. Medical inspection is now a feature of almost all progressive school systems. It has been brought about not only to aid the individual sufferer but also to protect the community from the spread of disease. Such medical inspection supplemented by follow-up work of nurses has exerted a direct beneficial influence upon the home. Indeed, in many cases, the school has been used as a place of training for ignorant parents. In this work the class teacher takes little or no part. It is completely managed by specialists—physicians and nurses. The teacher, by her in-

terest, attention, and subsequent inquiries among the pupils, can do much to aid the beneficent outcome of the work.

Some writers and lecturers on hygiene attach considerable importance to the deterrent influence of fear as a means of preventing various evil practices. While probably of some value, the appeal to this motive is easily overdone. That natural laws are inexorable is a profound truth which we all learn sooner or later. It is, however, extremely doubtful whether elementary pupils are mature enough to grasp the import of this truth. Fear of consequences as a reason for avoiding certain kinds of conduct is always open to the objection that the chance of escaping detection gives a degree of zest to the act. This is particularly true where the main penalty is the disapproval of one's fellows. The bare-foot boy who was expected to indulge in regular nocturnal washing of these extremities or risk the penalty of a spanking often weighed the chances of detection, omitted the irksome ablution, and not infrequently "got away with it." So, even when Nature is regarded as the maternal spanker, there is often the desire to "get away with it." Another weakness of the appeal to the emotion of fear as a deterrent is the fact that the evil consequences are felt to be, and often are, grossly exaggerated. The "terrible example" is apt to be regarded as a kind of impossible caricature. Such exaggerations, moreover, often do much harm. The germ of truth is liable to be completely swallowed up in the caricature, and the whole effect of the teaching

is lost. The boy who daily sees his father drink liquor with his meals, and smoke a pipe or cigar will probably treat as a joke any extreme or injudicious teaching of the terrible consequences of these habits.

It is not intended to imply that the influence of fear as an inhibitive factor is to be disregarded. The above discussion applies only to its unwise or exaggerated use. All through life a wholesome fear of foreseen consequences of wrong acts is an indispensable motive. The expression, "A God fearing man," epitomizes conscientiousness from the religious viewpoint. Both the physical and social sanctions of human life are important levers of moral conduct. Dread of evil consequences, wisely developed, is, as we shall see, an essential factor in the teaching of hygiene.

The healthful habits which can be developed by direct practice in the class-room are not many. Cleanliness, at least of the visible parts of the body, can and should be insisted upon. In some of the poorer sections of large cities, school baths form part of the physical curriculum. It is extremely doubtful whether, in this generation at least, the practice will be more than sporadic. So far as food is concerned, many teachers find their principal work to consist in eliminating it from the class room. The plan of providing wholesome school lunches, however, may be regarded as a means of forming good habits, and as a formal exercise in developing taste and judgment in regard to the selection of food. Lessons in cooking also constitute a means of direct influence in hygienic

science. Proper positions in sitting and standing, breathing exercises, and gymnastic drills receive considerable attention in the elementary school. Hygienic habits may reasonably be expected to follow the wise employment of such exercises.

Most of the useful healthful habits cannot receive sufficient direct practice in the school. This does not mean that they should be neglected there. On the contrary, it becomes an exceedingly important question how best to conserve the physical welfare of the pupils, to make the school work, though necessarily indirect, still potent. The best means of attaining this end will be discussed in some detail after a preliminary consideration of the psychology of conduct.

The Psychology of Conduct.—It is often said, and the statement meets with universal educational approval, that the end or aim of instruction is ethical. That knowledge is best which makes for socially efficient action. The apparent inconsistency of knowing the right and still doing the wrong is a problem which has exercised the thought of philosophers and psychologists in all ages. Socrates, it will be remembered, identified knowledge and virtue. To his mind, the wise men could willfully do no wrong. Evil conduct was perforce the result of ignorance, a failure to appreciate and give sufficient weight to those consequences which were ever discernible to the eye of wisdom. Human experience, however, has scarcely been able to verify this high ethical ideal. It is a fact of common observation that we may often clearly see the right and yet choose the wrong.

The development of action is the outgrowth of both nature and nurture. Every individual comes into the world with a fund of ready-made motor reactions. Some of these appear even before birth, others shortly after, and some, e. g., those of adolescence, are deferred until comparatively late in life. These instincts are biologically explainable on the basis of general and special heredity. The Italian or Chinese has not only the racial traits of his people but also evidences the peculiarities of his immediate ancestry. Out of this mass of instinctive reactions to his material and spiritual environment there gradually develops, largely through the influence of pleasure and pain, his own personality. The pleasurable consequences of success by degrees transform the aimless movements of the infant into the purposeful actions of the child. The force of imitation and the approval and disapproval of parents, nurses, etc., are important factors in this development. By the time the child is of school age, numerous instinctive reactions have been largely eliminated and many necessary habits formed. As the mind matures, thoughtful deliberation tends to supplant instinctive reaction, though the force of early training and association remains quite potent.

Every idea which occupies the mind has a motor aspect. This is evident to even casual observation, and it has also been made the subject of much psychological experimentation. In a set of experiments made by the author on his four year old daughter, ninety-two per cent of a large number of definitions secured were of an entirely motor character. The

piano—an automatic player—was a thing “what you play with your feet;” a window was “what you look out of,” etc. Not only does the mention of the object suggest a corresponding motor idea, but it frequently gives rise to the act itself. Several familiar household games are based upon this psychological fact. The more intense the idea, and the richer its mental organization, the greater the likelihood of the resultant act. Focalization of attention is thus seen to be a most important factor in the formation of new habits, or in the breaking of old ones. More important than such focalization, however, is the thoroughgoing organization of ideas into apperceptive systems. The Herbartians have worked out this aspect of volition most completely. A well organized mind will naturally mean a consistent character. Strength for action is secured through the mutual reinforcement of the various ideal elements. When there is combined with such mental organization proper ethical ideas we have not only a consistent character but a moral character as well. Pleasure is not viewed as a distinct constituent of mind, but merely as the emotional phase of an idea train moving in a manner compatible with the individual's ordinary processes of thought. Displeasure or aversion arises as the result of a checking or retardation of the wonted idea trains. In fact, it is this retardation. The state of desire is the corresponding feeling of arrest. The ability to remove this arrest and permit the idea train to proceed constitutes the essence of will. Two boys, A and B, see a dog frantically endeavoring to remove a pack

of exploding fire-crackers dangling on its tail. A laughs, enjoying the acceleration of his usual idea trains in which love of cruelty is a prominent feature. B is moved to compassion and is distressed. His idea trains, characterized by consideration for animal suffering, are arrested. This arrest transforms itself into the desire to relieve the poor animal. In the next paragraph we shall attempt to apply this discussion of the springs of conduct to the formation of habits conducive to health.

Teaching Hygiene.—The foregoing sketch of the psychology of action will enable us to give an answer to the query concerning the value of a study of anatomy and physiology in their relation to hygiene. It is sometimes urged that the present elementary course in these subjects is indefensible. If the aim is healthful living, why not teach just hygiene directly? The school is not supposed to train its pupils to become physicians. Such an argument seems plausible to the layman and even to the average medical practitioner. The educator is, of course, willing to admit that many useful practices must be taught simply as hygiene. The emergency treatment of burns, disinfection of wounds, bandaging of cuts, etc., are a few illustrations. In general, the school should give instruction in proper procedure in emergencies to be employed in the interim before medical treatment can be secured.

The everyday processes of life, however, demand a different educational preparation. Emergencies are the exception, not the rule. Habits of eating, and drinking, care of the teeth and eyes, cleanliness, ex-

ercise, pure air, sufficient sleep, etc., are needed every minute of the ordinary uneventful life. To secure a proper attitude toward these processes there is needed a rich mental soil of apperception, in which anatomical and physiological details form the rational basis for action. To lead the child to deduce hygienic rules for himself should be the aim of a good teacher. Thus deduced, these rules will be more likely to influence conduct. The self-active cooperation of the pupil makes for the most permanent form of mental organization. This psychological fact has been alluded to in several parts of this book, but its splendid application here justifies its repetition. A teacher, for example, has a class of pupils who give every evidence of absence of tooth brushes in the hygienic equipment of their homes. Simply to tell them that they should brush their teeth is so much waste of time and breath. To add some reason, such as that neglect of teeth will lead to decay and finally impair digestion, constitutes considerably better teaching, but even this cannot be relied on to initiate effective habits. The exhibition of a large model of a decayed tooth would add an objective and an emotionally impressive element. Better than any of these methods, though probably including the latter, would be to follow up the explanation of the process of digestion by a detailed presentation of the structure and function of the teeth. Here is where detail is psychologically important. The structure of enamel, dentine, and nerve pulp should be impressively shown either by means of large models or clear pictures. An entire lesson could profitably

be spent in the elucidation of these anatomical details. It should be followed by an interesting presentation, also objective, of the process of decay and its causes. A particularly full treatment is justified here on account of the relation of the topic to cleanliness in general. After the class has secured a general idea of the digestive process, followed by anatomical study of tooth structure and the laws of decay, there should follow a real Socratic lesson in hygiene. The pupils are now in a position to deduce for themselves the necessity for and the method of care of the teeth. Their knowledge of the interesting structure of enamel combined with the understanding of its protective function will readily enable them to see the need of frequent removal of all putrefactive substances. They can easily reason out the most essential times for such removal, viz., immediately after eating, and can be led to deduce the proper manner of cleansing. A large model of a tooth brush, with an explanation of the nature and arrangement of its bristles, would form an impressive objective presentation. The desirability of brushing the teeth in a direction away from the gums could be developed from the class by proper questioning. The self-active processes are peculiarly important here as in every subject where action as well as knowledge is desired. Similarly the class could determine the proper nature and use of a tooth-pick. Probably all that would have to be simply told them would be the kind of tooth-paste or powder best adapted for cleansing. They must also be led to see that the importance of mastication for good digestion

and health demands that they do all they can to conserve their teeth. Even with the best human care, disease of the teeth may occur. The need of regular visits to a tooth specialist—a dentist—should be impressed. His knowledge and apparatus enable him to detect the beginnings of tooth trouble, and save us much misery and distress. The plan outlined above for the teaching of tooth hygiene may seem long and complicated. It is nevertheless an effective procedure, and the importance of the subject amply justifies the length of time demanded.

Similar apperceptive organization is needed for the proper teaching of many other rules of everyday hygiene. Perhaps more anatomical and physiological knowledge is required than the average teacher possesses. She will, however, scarcely teach hygiene effectively unless she secures this knowledge. The multiplication of associations in this kind of mental organization means not only a better retention of the knowledge, but renders the pupil's environment a series of constant reminders or suggestions of necessary health processes. He is enabled to appreciate the reasons for hygienic practices and, more than this, the reasons are so thoroughly interwoven with his whole mental life that they can reasonably be expected to influence his conduct. If this desirable result is thwarted by the long neglect of his home surroundings, it may at least become effective when, as a parent, he sees the necessity of giving his own children the hygienic training which was denied him. The teacher combating the influences of home training must often

escape absolute despair by the thought that her teaching may bear fruit at least in the next generation.

To the objection that there is too much anatomical detail required in the elementary course, we can answer yes and no. A rational course in physiology should demand even more detail where it can be made an effective means for mental organization as a basis for healthful living. Where no such end is discernible, detail can be justified only by its conventional or theoretic value. Such details should be carefully restricted. We may instance as a few of the results which we might reasonably expect from a rational course in physiology: assuming proper positions of reader and book especially when using artificial light, the avoidance of reading in moving vehicles, the (negative) care of the ear,¹ conscientious ventilation of sleeping apartments, the group of healthful habits springing directly from a knowledge of the relation of blood supply to exercise, digestion, and mental exertion, cleanliness—particularly in regard to the prevention of the spread of disease, proper attention to the elimination of waste, especially the importance of regular bowel movements, appreciation of the need of sufficient sleep, a knowledge of food values and methods of food preparation.

¹ There is probably no better way of securing respect for this important organ than by giving a complete description of its delicate anatomy. It is not intended that all or any of this anatomical knowledge should be demanded from the pupil. Its value lies rather in its function as a mental cement, and as conducive to a proper hygienic attitude.

Sex Hygiene.—I have purposely left the delicate and difficult subject of sex hygiene for separate consideration. Although many regard the home as the natural place for instruction and guidance in this subject its conspicuous neglect there has tended to force it into the school. Modern conditions have made this topic one of even greater importance than it was some centuries ago. Civilization has so prolonged the period of sociological infancy that fifteen years or more frequently intervenes between physiological and sociological marriageability. This is a peculiarly dangerous period as the passions are then strongest and reason and volition are insufficiently developed to vie against them. From about the seventh school year on through the high school the physical and moral care of adolescence assumes tremendous importance.

In general, the elementary school must fortify the child against his lower self by a wholesome atmosphere, by aiding in the development of the mental fiber resulting from contact with good literature, and by the rigorous avoidance of the lewd and suggestive. Many are of the opinion that, from the time of adolescence, boys should be taught by men and girls by women. It is, however, questionable whether their arguments are sufficient to outweigh the many advantages of co-education. The school should endeavor to supply a wholesome outlet for the energy of the pupils. Encouragement should be given to all forms of out-door recreation, such as athletics, for both boys and girls. Supervised play and carefully organized social work are forms of extra-scholastic activity

which should be provided for by public spirited Boards of Education. In sexual morality, it is particularly true that an ounce of prevention is worth a pound of cure.

It is probably unwise for the elementary class-teacher to attempt any direct teaching along the lines of sex hygiene. It is a growing opinion among close students of the problem that all such instruction should be strictly private or individual. The medical inspector, nurse, and teacher must form a vigilant trio. Moreover, in this work, the school should reach out to influence the home. Parents' meetings in which the importance of the subject is frankly and impressively discussed may be productive of considerable good. Throughout all such work there should be attempted the destruction of the absolutely untenable double standard of sex morality. Impurity must be regarded as a sin not only for women but also for men.

THE END

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